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Laser-Velocimeter-Measured
Flow Field Around an Advanced,
Swept, Eight-Blade Propeller
at Mach 0.8

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National Aeronautics
and Space Administration

Scientific and Technical
Information Branch

Summary

A laser velocimeter has been used to measure velocities in the flow field around an advanced, eight-blade, high-speed propeller in the NASA Lewis 8- by 6-Foot Supersonic Wind Tunnel. The propeller was nominally 62.23 cm (24.5 in) in diameter and was operated both at windmill and near the design power condition at a free-stream Mach number of 0.8. The detailed three-dimensional velocity data obtained are being made available in this data report to enable researchers to verify emerging advanced propeller design and analysis codes. Data were obtained at two axial positions ahead of the propeller, at two axial positions downstream of the propeller, and at seven radial positions within the bladed passages extending from the inlet of the blades to downstream of the blade exit. A four-beam laser velocimeter system was configured to measure two velocity components simultaneously.

were designed simultaneously as interactive components to minimize inboard blade blockage effects. As part of the NASA Lewis propeller research program, aerodynamic design and analysis techniques are currently being developed for advanced propeller systems that include these new concepts. To verify these emerging analysis techniques, detailed propeller flow-field data are needed. The SR-3 has also been tested using pressure instrumentation, mean flow angle instrumentation, and force balances (refs. 8 to 11).

This report presents flow-field velocity data that can be used to verify advanced propeller aerodynamic computer codes. These data were obtained on the SR-3 in the NASA Lewis 8- by 6-Foot Supersonic Wind Tunnel. The data are presented herein (in tabular form) for the propeller operating at windmill and near its design condition, both at a free-stream Mach number of 0.8. Data were obtained at two axial positions ahead of the propeller, at two axial positions downstream of the propeller, and at seven radial positions extending from the inlet of the blades to downstream of the blade exit. The data were obtained with a laser velocimeter system (ref. 12).

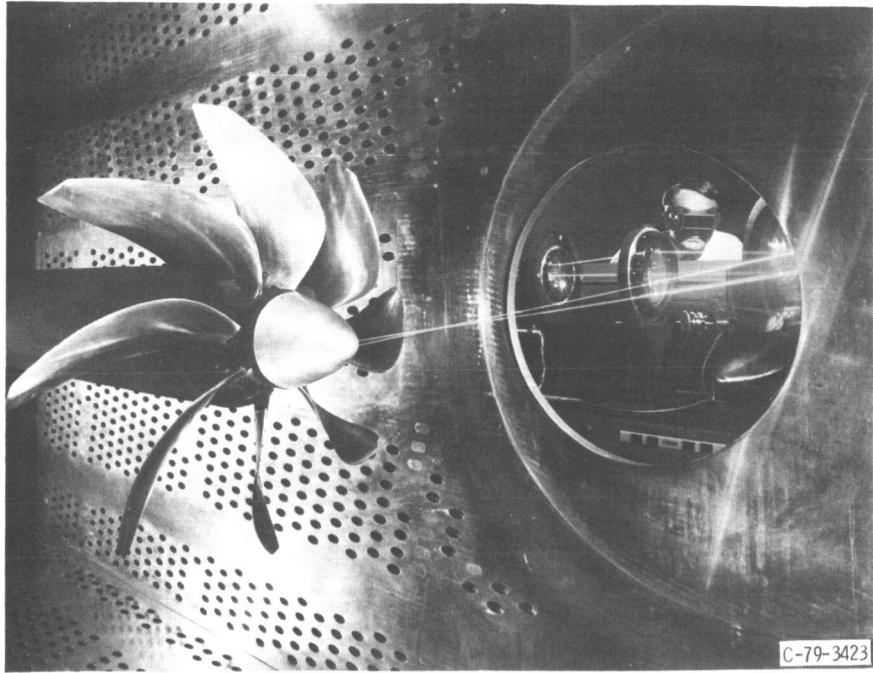
Introduction

The growing interest in fuel-efficient aircraft propulsion systems has led to a renewed interest in turboprop systems. Advanced turboprop propulsion concepts for aircraft that cruise at speeds from Mach 0.7 to 0.8 have been investigated in numerous studies (refs. 1 to 7). These studies indicate that, for comparable technology, turboprop systems may use 15 to 35 percent less fuel than turbofan-powered transport aircraft. To achieve these attractive reductions in fuel consumption, however, many advanced concepts must be employed. These new concepts include (1) highly swept blading to minimize compressibility losses and to produce acoustical phase cancellation, (2) spinner and nacelle contouring to reduce blade-section Mach numbers and to alleviate blade-nacelle interference and choking effects, (3) a large number of highly loaded blades to minimize size and allow high ideal efficiencies, and (4) thin blades to reduce the drag-rise Mach number.

A typical advanced propeller model, the SR-3 (fig. 1), uses eight blades with 45° tip sweep. The nominal tip diameter is 62.23 cm (24.25 in). The blades are very thin and are highly loaded. The nacelle, spinner, and blades

Symbols

A_T	stagnation speed of sound, cm/s (ft/s)
b	elemental blade chord, cm (in)
C_p	power coefficient
D	blade tip diameter, cm (in)
H	span height at blade tip, cm (in)
h	span height, measured from axis of revolution, cm (in)
J	advance ratio
M	Mach number
R	radius, cm (in)
R_t	nominal blade tip radius, 31.12 cm (12.25 in)
t	elemental blade maximum thickness, cm (in)
X	axial distance from spinner tip, cm (in); or axial distance from blade stacking axis for deflected-blade coordinates
Y	circumferential deflected-blade coordinate



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Figure 1.—SR-3 propeller installed in 8- by 6-Foot Supersonic Wind Tunnel.

$\beta_{3/4}$	blade angle at radial location equal to 3/4 propeller tip radius
$\Delta\beta$	elemental blade twist, deg
θ	circumferential coordinate (position of propeller in degrees of rotation relative to zero of angle encoder)

Apparatus and Procedure

Propeller Configuration

The SR-3 model was designed and fabricated by Hamilton Standard under contract to NASA Lewis. It was designed for operation at Mach 0.8 at 10.7-km (35 000-ft) altitude. It has a design tip speed of 244 m/s (800 ft/s) and operates at a full-scale cruise power loading of 301 kW/m² (37.5 shp/ft²). The design advance ratio is 3.06 and the power coefficient is 1.7. The SR-3 propeller was designed for high aerodynamic efficiency and low noise (ref. 11). Distributions of twist and lift coefficient on surfaces along streamlines and the planform are given in reference 11. Distributions of elemental blade twist, thickness, and chord ratios on planes perpendicular to the blade stacking axis are given in figure 2. The airfoil sections used in the blade design were NACA series 16 from the tip to the 53-percent radius and NACA series 65 with circular-arc camber lines from the 37-percent radius to the root. A transition was used between these two airfoil types. For all of the data presented, the blade angle, measured at the 3/4 propeller tip radius, was set at either 60.1° or 60.9°. The manu-

factured sweep determined from the line connecting the centers of gravity of the airfoils along the blade radius is given in figure 3. Sweep is affected when blades are deflected by aerodynamic and centrifugal loads. The sweep presented in figure 3 does not include these effects, but they can be computed from the deflected-blade coordinates presented herein. Sweep varies from 45° at the tip to zero at the 45-percent radius and to -25° at the spinner surface. The spinner incorporates area ruling, and the maximum nacelle diameter is equal to 35 percent of the propeller diameter. The spinner and nacelle coordinates are given in table I. The coordinate system used to describe the spinner and nacelle coordinates is shown in figure 4.

The tip diameter of a variable-pitch propeller with swept blades changes as the blade angle is varied. In addition, the tip diameter increases as the propeller speed is increased because of elastic deflection under the centrifugal loads. The coordinates of the blades at the design operating condition have been calculated by using a finite-element structural analysis that accounts for centrifugal and aerodynamic loads. The deflected-blade coordinates in a Cartesian coordinate system are given in table II. These coordinates were calculated for a 0.8 free-stream Mach number, a 8636-rpm propeller rotational speed, a 441-kW (591-shp) power, a 1307-N (294-lb) thrust, and a 3/4-radius-ratio blade angle of 56.93°. The laser velocimeter data presented herein were obtained at slightly larger blade angles of 60.1° and 60.9°. The coordinates are given in planes perpendicular to the pitch change axis. The spanwise coordinate is measured along the axis of rotation.

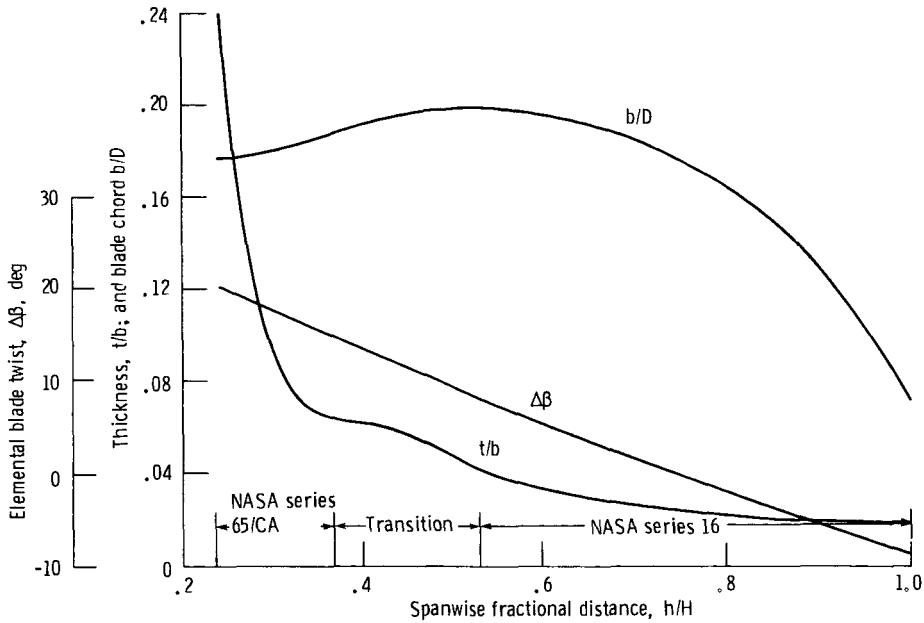


Figure 2.—Spanwise distribution of elemental SR-3 propeller blade twist, thickness, and chord ratios.

Laser Velocimeter System

The laser velocimeter (LV) system used in obtaining the data is described in references 12 to 17. The system was located adjacent to the wind tunnel test section in the balance chamber of the NASA Lewis 8- by 6-Foot Supersonic Wind Tunnel. Optical access to the model flow field was through a 0.67-m-diameter window in the tunnel side wall. The propeller was located approximately at the tunnel centerline and at the center of the access window. Details of the tunnel and its operating conditions are given in reference 18.

The LV system used in this test (fig. 5) was a four-beam, on-axis backscatter system. The laser beam passed through a beam waist adjuster, an attenuator, and then a dispersion prism. The prism separated the beam into blue and green components. These beams were then individually reflected with corner mirrors and directed into the transmitting optics, where each color was split into two beams of equal intensity. Final alignment adjustments

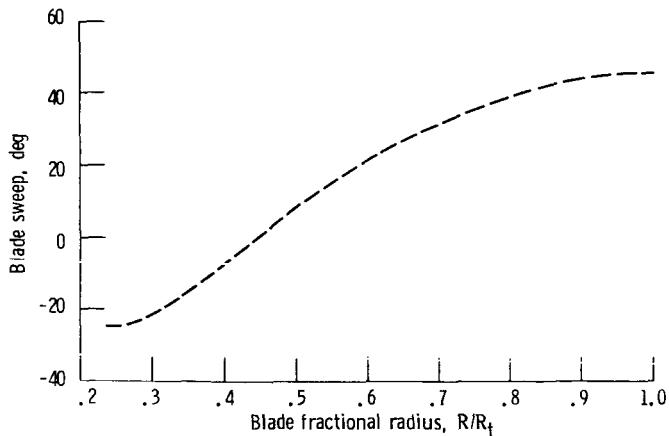


Figure 3.—Variation of SR-3 propeller blade manufactured sweep distribution with blade fractional radius.

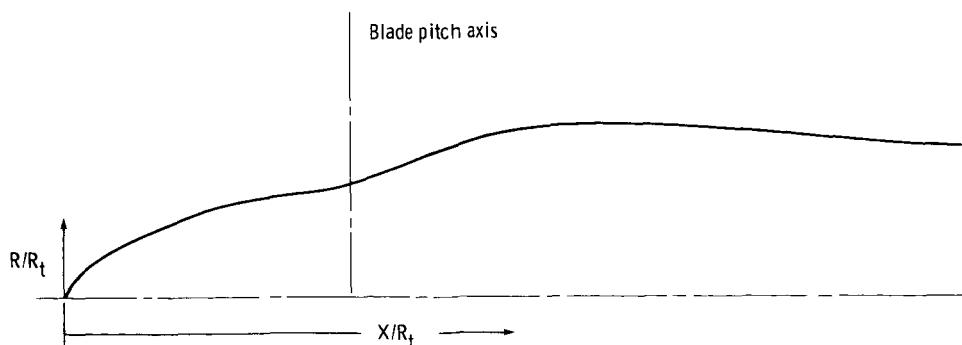


Figure 4.—Spinner and nacelle coordinate system.

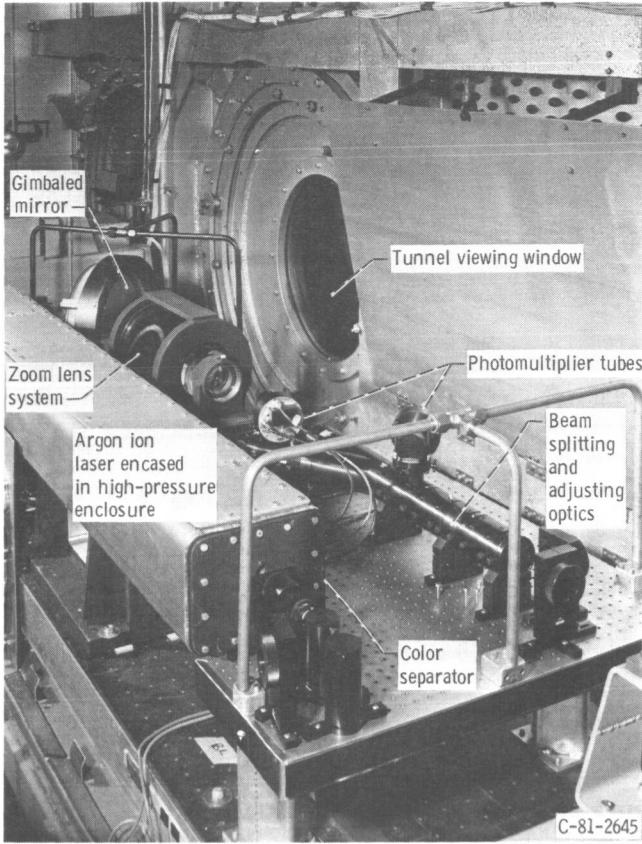


Figure 5.—Components of laser velocimeter (LV) system installed in wind tunnel.

were made with the beam steering modules to ensure coincident beam crossing. The beams passed through the zoom lens assembly, which permitted positioning of the measuring volume at any transverse location within the wind tunnel. The beams were reflected into the tunnel by a 0.41-m-diameter corner mirror.

Light scattered from particles passing through the measuring volume was transmitted back to the zoom lens by the corner mirror. The scattered light was separated into blue and green components and was measured by photomultiplier tubes. The photomultiplier outputs were amplified and remotely processed. The data were subjected to various validity checks and were recorded on permanent disks for future data reduction. As each velocity sample was processed, the angular position of the propeller was also recorded from an angle encoder. The measuring volume was moved in two directions by traversing the entire laser system and was moved in the third direction by using the zoom lens assembly. This movement was remotely controlled by a computer. The four-beam laser velocimeter can measure two velocity components simultaneously. Two separate runs were required to obtain data for the three velocity components. The axial and radial velocity components were measured during one run, and then the tangential

velocity component measurement and a repeat measurement of axial velocity were made during the second run. The processing is described completely in reference 12. Dioctyl phthalate (DOP) was used to seed the flow in the tunnel. The seeding used with the LV system is discussed in references 12 and 16.

Data Acquisition

Velocity was measured at stations upstream of, downstream of, and within the blade passages. The nominal measurement stations are shown in figure 6. There were two stations upstream of the propeller and two stations downstream. The coordinate system used (fig. 7) was cylindrical with its origin at the nose of the spinner at static conditions. The axial direction was coincident with the rotational axis and positive in the downstream direction. The tangential direction was the direction of rotation, which was clockwise when viewed looking downstream. The radial direction was positive outward from the axis of rotation. This defines a right-hand system of coordinates (R, θ, X).

The LV system measured two components of velocity simultaneously. The four beams were set up such that the planes defined by the two beams for each color were essentially orthogonal to each other and at nominal 45° angles to the horizontal plane of the wind tunnel. The measured velocities were therefore also oriented at 45° relative to the axial direction. The desired velocity components in a cylindrical coordinate system were obtained by vectorial resolution. The axial and tangential velocity components were measured in the horizontal plane that passed through the propeller rotational axis. The axial and radial velocity components were similarly measured

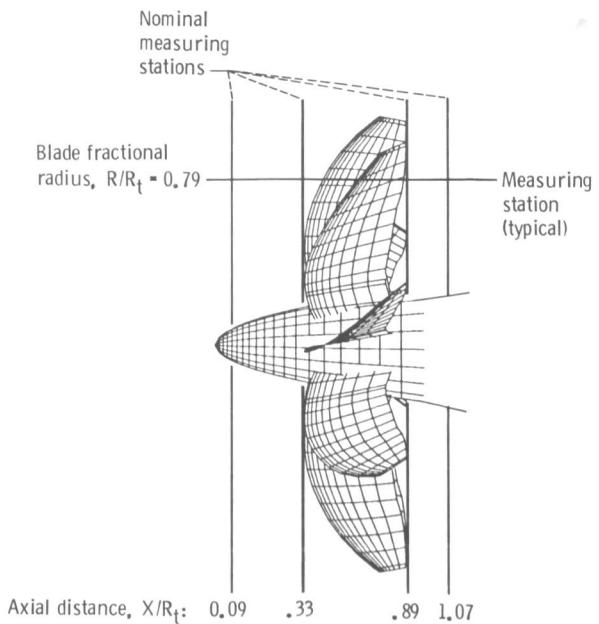


Figure 6.—Location of LV measuring stations.

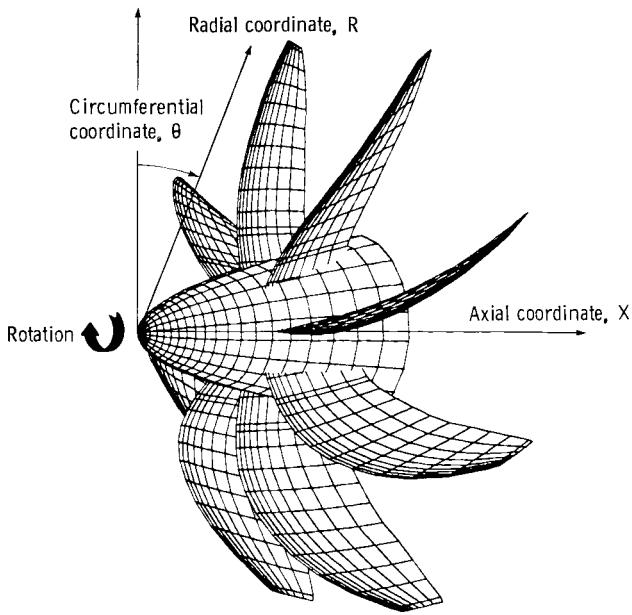


Figure 7.—SR-3 propeller coordinate system.

in the vertical plane that passed through the propeller rotational axis. The measuring volume, which was football shaped, was about 0.3 mm in diameter and about 7 mm long.

The position of the measuring volume was fixed, and 1000 velocity component samples were taken from each pair of beams. This resulted in 2000 velocity component samples over the entire circumference. For each velocity sample recorded the associated angular position from the angle encoder was also recorded. The raw data were stored on computer magnetic disk for later analysis. The velocity samples were generally almost uniformly distributed circumferentially. Note that the system was not operated in an interlocked mode such that a velocity sample from the blue-beam system was taken at the same instant that a velocity sample was taken from the green-beam system. This precluded any possibility of using these data to evaluate unsteady flows. The data presented herein are limited to "folded" data. At each radial position the data over the complete circumference for the eight blades were "folded" to a 45° segment to provide data for a single "equivalent" blade passage.

Data Presentation

The format for the presentation of the LV velocity data is shown in table III. An index of the data presented is given in table IV. The data are presented in table V. Data are presented both for windmill operation and for powered operation near the design point. In the powered condition the propeller was operated at an advance ratio of 3.06 and power coefficients of 1.8 and 1.4. The corresponding blade chord angles at 75 percent of the tip radius were 60.9° and 60.1°, respectively. Data at wind-

mill conditions were obtained at the same blade chord angles as with powered operation; the corresponding advance ratios were 4.18 and 4.01. The type of operation and operating conditions are indicated in the heading for each set of data. All data were for the tunnel operating at Mach 0.8. Data are presented for all three cylindrical components of velocity at the two upstream stations, at the two downstream stations, and for various constant-radius stations within the blade passages (fig. 6). The exact location of each measurement is given with the corresponding velocity data in table V. The axial component of velocity at various circumferential locations is tabulated on the left and the other component, radial or tangential, on the right. The headings at the beginning of a set show which components are tabulated. All velocities have been normalized by the free-stream stagnation speed of sound A_T , the absolute value of which is given in the heading for each data set. Within the 45° segment of folded data, 30 circumferential positions have been established. The increments in circumferential position (increments in θ in table III) are therefore 1.5°. The axial and radial coordinates have been normalized by the tip radius, which was taken to be 31.12 cm (12.25 in).

In taking propeller data with an LV system, it is possible to encounter blade flash. The phenomenon occurs when a laser beam strikes a solid surface, reflects back, and saturates the photomultiplier tube. This causes erroneous data to be recorded. Data that were obviously due to blade flash were omitted from table V and are indicated by "XXXXX" instead of a numerical value. The effect of minor flashes, which yield nearly realistic values of velocity, may still be present. On rare occasions insufficient data were obtained at a particular circumferential location to permit a meaningful measurement of mean velocity. These data have also been replaced by "XXXXX." No other attempt has been made to screen the data. Note the frequent elimination of data in the interblade data sets. The averages at the end of each data scan have been omitted when one or more values of velocity in a scan had been eliminated due to blade flash or inadequate data.

Data Trends

Some of the flow-field velocities are shown graphically in figures 8 and 9 for the propeller operating near its design point. These data were interpolated to provide data at intermediate positions, color coded, displayed on a color raster display, and photographed. The method used is similar to that presented in reference 19. The LV data for powered operation of the SR-3 propeller have been compared with results of a curved-lifting-line analysis in reference 14. The results are presented in color in the reference. Data measured immediately downstream of the propeller are shown in figure 8. For the axial velocity component (fig. 8(a)), data for a single

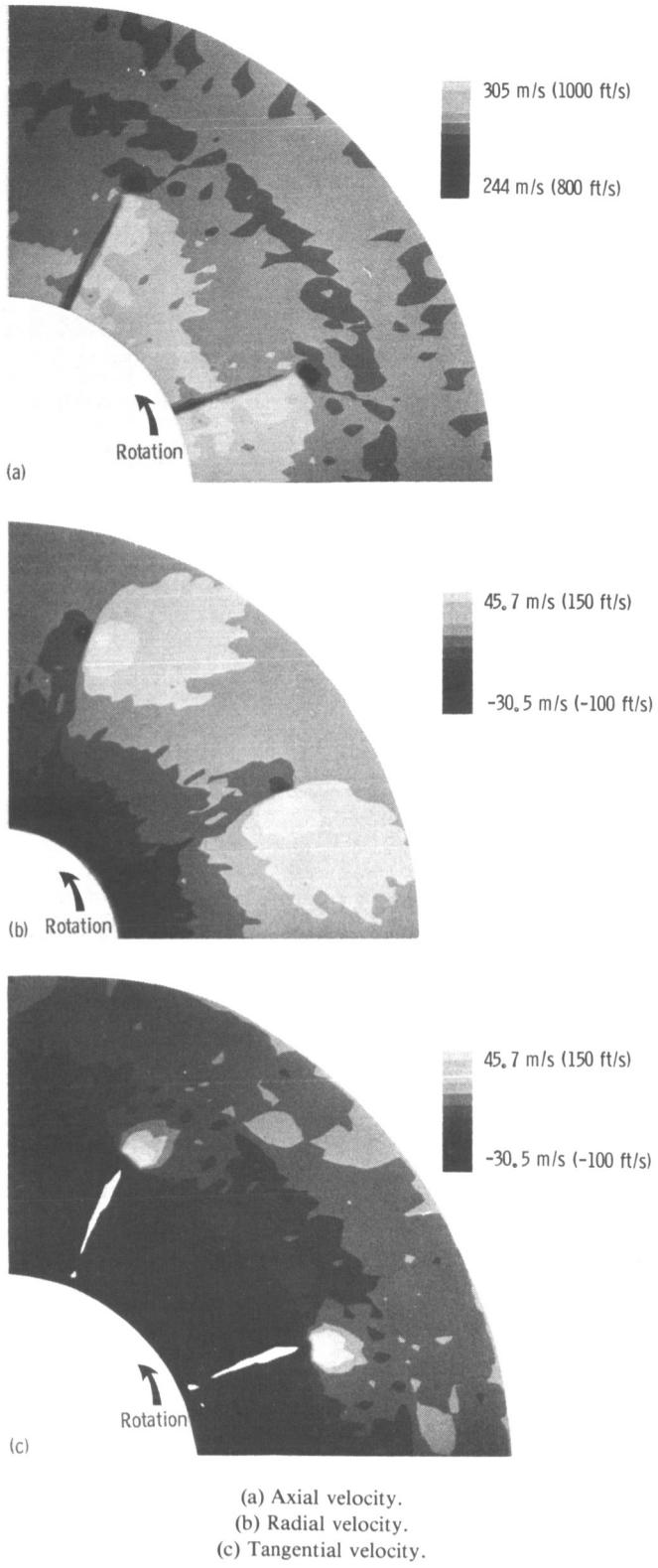


Figure 8.—Computer graphic representation of SR-3 propeller experimental velocity flow fields measured with LV system. Power coefficient, 1.8; advance ratio, 3.06; Mach number, 0.8; axial station, 0.89.

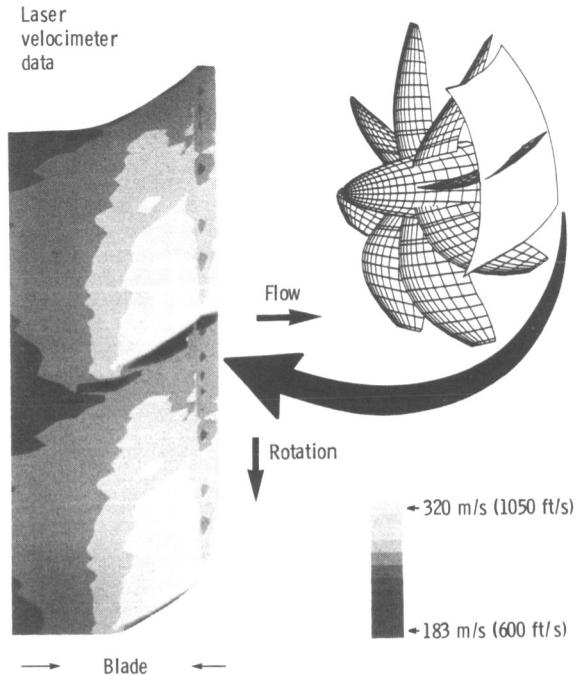


Figure 9.—SR-3 propeller interblade resultant velocity. Power coefficient, 1.8; advance ratio, 3.06; Mach number, 0.8; radius ratio, 0.79.

“equivalent” flow passage have been repeated for clarity. The wide wakes coming from the blades are clearly shown. The high velocity on the suction side of the blade and the jump in the velocity across the blade can be seen. Near the blade tip a tip vortex is beginning to form. High radial velocities occurred near the nacelle (fig. 8(b)) because of nacelle curvature. In addition to the blade wakes and the tip vortex development already noted, the spanwise variation in the velocity jump across the blade is also clearly shown for the radial component. This velocity jump is related to the spanwise blade loading. The blade wakes and tip vortex development previously noted are again shown for the tangential velocity component (fig. 8(c)). Data were measured between the blades (fig. 9) at a constant radial location ($R/R_t = 0.79$). High velocity on the suction surface terminated in an apparent shock wave. The shock wave weakened as it crossed the passage and is not noticeable on the pressure surface. Some upstream effects ahead of the blade are evident. The data trends are evaluated further in reference 14.

Concluding Remarks

Flow-field measurements around an advanced propeller have been made with a laser velocimeter (LV)

system in the NASA Lewis 8- by 6-Foot Supersonic Wind Tunnel. The propeller was operated both at windmill and near the design power condition. The free-stream Mach number was 0.8. Data were obtained at two axial positions ahead of the propeller, at two axial positions downstream of the propeller, and at seven radial positions within the blade passages extending from the inlet of the blades to downstream of the blade exit. The four-beam LV system was configured to measure two velocity components simultaneously. The three-dimensional velocity data are being made available in this data report to aid in verifying advanced propeller analysis and design codes. This data set is uniquely suited for this purpose.

Lewis Research Center
National Aeronautics and Space Administration
Cleveland, Ohio, February 1, 1985

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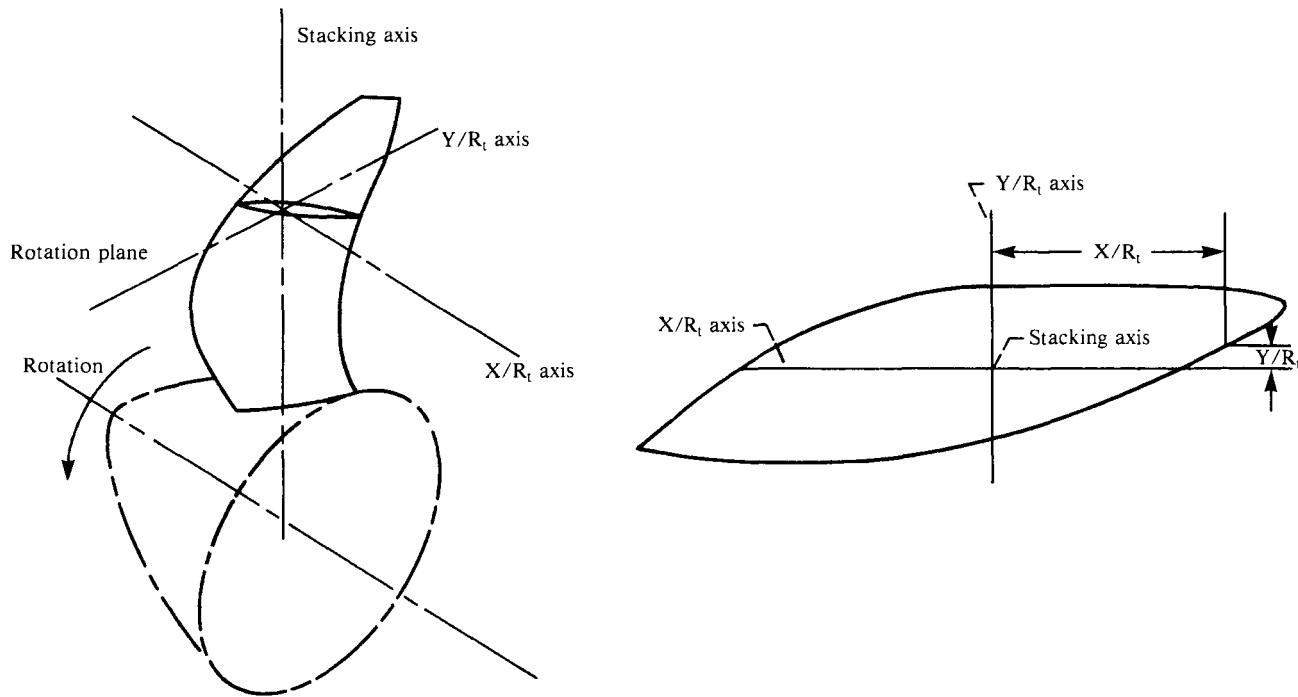
TABLE I.—SR-3 NACELLE AND SPINNER COORDINATES

X/R_t	R/R_t	X/R_t	R/R_t	X/R_t	R/R_t
Spinner					
0	0	0.0163	0.0297	0.0326	0.0457
.0490	.0596	.0898	.0873	.1306	.1102
.2122	.1469	.2939	.1763	.3755	.2016
.3828	.2037	.3878	.2049	.4082	.2098
.4826	.2122	.4490	.2118	.4694	.2114
.4898	.2118	.5102	.2151	.5306	.2200
.5510	.2257	.5714	.2322	^a .5918	.2390
-----	-----	.7755	.3045	-----	-----
Centerbody					
0.7776	0.3053	0.7837	0.3074	0.7918	0.3100
.8000	.3129	.8082	.3154	.8163	.3180
.8245	.3203	.8326	.3225	.8408	.3248
.8490	.3268	.8571	.3287	.8653	.3304
.9061	.3383	.9469	.3445	.9878	.3486
1.0286	.3514	1.1102	.3547	1.1380	.3551
1.1918	.3546	1.2735	.3514	1.3551	.3461
1.4367	.3396	1.5184	.3314	1.6000	.3237
1.6816	.3176	1.7633	.3135	1.8449	.3102
1.8612	.3099	1.8776	.3096	1.9143	.3093

^aBlade pitch axis.

TABLE II. - SR-3 PROPELLER, DEFLECTED-BLADE COORDINATES

[Nominal blade tip radius, R_t , 31.12 cm (12.25 in);
Blade angle, $\beta_{3/4}$, 56.93°.]



$$h/R_t = 0.240490$$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.157143	-0.032653	-0.156816	-0.030114	-0.144000	-0.019812	-0.130286	-0.012784
-0.116571	-0.006202	-0.102775	-0.000160	-0.088816	0.005664	-0.074914	0.011249
-0.060996	0.016629	-0.047078	0.021812	-0.033176	0.026784	-0.019282	0.031486
-0.005380	0.035837	0.008547	0.039665	0.022547	0.042857	0.036629	0.045388
0.050808	0.047290	0.065118	0.048604	0.079584	0.049339	0.094204	0.049535
0.109143	0.049249	0.124326	0.048596	0.139837	0.047673	0.155510	0.046661
0.171673	0.045420	0.188245	0.044229	0.188653	0.043959	0.188490	0.043486
0.176245	0.032155	0.163510	0.021437	0.150531	0.011600	0.137224	0.002386
0.123510	-0.006050	0.109714	-0.013600	0.095673	-0.020237	0.081429	-0.025976
0.067029	-0.030776	0.052506	-0.034694	0.037894	-0.037739	0.023200	-0.039918
0.008449	-0.041298	-0.006338	-0.042041	-0.021127	-0.042351	-0.035902	-0.042376
-0.050669	-0.042204	-0.065429	-0.041902	-0.080188	-0.041486	-0.095020	-0.041004
-0.109878	-0.040498	-0.124815	-0.039682	-0.139918	-0.038718	-0.155755	-0.034800

$$h/R_t = 0.266694$$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.169796	-0.042482	-0.169469	-0.040955	-0.156408	-0.031894	-0.142531	-0.025624
-0.128571	-0.019608	-0.114531	-0.014090	-0.100490	-0.008776	-0.086367	-0.003659
-0.072261	0.001280	-0.058114	0.006061	-0.043976	0.010686	-0.029820	0.015110
-0.015649	0.019298	-0.001433	0.023167	0.012833	0.026645	0.027159	0.029722
0.041559	0.032392	0.056033	0.034661	0.070588	0.036522	0.085306	0.037959
0.100163	0.038996	0.115184	0.039608	0.130286	0.039894	0.145714	0.039976
0.161388	0.039722	0.177224	0.039331	0.177551	0.039135	0.177388	0.038792
0.164326	0.029657	0.151020	0.021069	0.137469	0.013216	0.123755	0.005924
0.109959	-0.000724	0.095837	-0.006682	0.081714	-0.011967	0.067437	-0.016620
0.053061	-0.020678	0.038604	-0.024196	0.024090	-0.027200	0.009510	-0.029714
-0.005127	-0.031796	-0.019796	-0.033543	-0.034490	-0.035078	-0.049192	-0.036473
-0.063910	-0.037796	-0.078661	-0.039094	-0.093388	-0.040367	-0.108163	-0.041624
-0.123020	-0.042906	-0.137959	-0.043976	-0.152980	-0.045029	-0.168735	-0.043657

TABLE II. - Continued.

 $h/R_t = 0.287265$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.178857	-0.050237	-0.178612	-0.049061	-0.165388	-0.040376	-0.151347	-0.034212
-0.137224	-0.028302	-0.123102	-0.022906	-0.108898	-0.017706	-0.094612	-0.012735
-0.080302	-0.007960	-0.065992	-0.003342	-0.051673	0.001114	-0.037331	0.005407
-0.022963	0.009502	-0.008563	0.013355	0.005878	0.016922	0.020367	0.020196
0.034922	0.023176	0.049518	0.025861	0.064196	0.028245	0.078963	0.030310
0.093796	0.032065	0.108735	0.033527	0.123837	0.034735	0.139020	0.035739
0.154286	0.036424	0.169877	0.036947	0.170041	0.036792	0.169959	0.036563
0.156326	0.028955	0.142694	0.021837	0.128816	0.015249	0.114857	0.009102
0.100816	0.003391	0.086694	-0.001868	0.072400	-0.006673	0.058073	-0.011053
0.043682	-0.015053	0.029233	-0.018694	0.014727	-0.022024	0.000171	-0.025045
-0.014433	-0.027804	-0.029069	-0.030376	-0.043731	-0.032816	-0.058416	-0.035200
-0.073118	-0.037559	-0.087837	-0.039910	-0.102612	-0.042253	-0.117388	-0.044571
-0.132245	-0.046914	-0.147184	-0.049029	-0.162204	-0.051167	-0.178041	-0.051102

 $h/R_t = 0.328326$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.194775	-0.065412	-0.194531	-0.064302	-0.181143	-0.055371	-0.166939	-0.048727
-0.152735	-0.042400	-0.138286	-0.036588	-0.123837	-0.031020	-0.109306	-0.025731
-0.094694	-0.020678	-0.080114	-0.015845	-0.065477	-0.011200	-0.050816	-0.006767
-0.036114	-0.002539	-0.021380	0.001465	-0.006605	0.005232	0.008204	0.008767
0.023053	0.012106	0.037927	0.015257	0.052841	0.018237	0.067771	0.021037
0.082775	0.023690	0.097714	0.026180	0.112735	0.028531	0.127837	0.030792
0.142939	0.032873	0.158122	0.034833	0.158204	0.034751	0.158122	0.034645
0.143918	0.028971	0.129714	0.023469	0.115429	0.018188	0.101143	0.013020
0.086775	0.007987	0.072384	0.003099	0.057976	-0.001660	0.043527	-0.006289
0.029061	-0.010792	0.014555	-0.015192	0.000014	-0.019469	-0.014571	-0.023624
-0.029192	-0.027649	-0.043853	-0.031592	-0.058547	-0.035461	-0.073282	-0.039290
-0.088000	-0.043094	-0.102857	-0.046873	-0.117714	-0.050637	-0.132653	-0.054343
-0.147592	-0.058008	-0.162694	-0.061429	-0.177959	-0.064800	-0.193878	-0.066139

 $h/R_t = 0.369306$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.207837	-0.079608	-0.207673	-0.078310	-0.194041	-0.068922	-0.179755	-0.061535
-0.165306	-0.054531	-0.150694	-0.047935	-0.136000	-0.041649	-0.121306	-0.035616
-0.106531	-0.029829	-0.091673	-0.024294	-0.076824	-0.018971	-0.061894	-0.013894
-0.046922	-0.009061	-0.031902	-0.004487	-0.016824	-0.000189	-0.001704	0.003847
0.013453	0.007654	0.028637	0.011257	0.043853	0.014686	0.059078	0.017943
0.074318	0.021061	0.089551	0.024073	0.104816	0.026996	0.120082	0.029853
0.135265	0.032637	0.150531	0.035363	0.150531	0.035322	0.150531	0.035249
0.136000	0.030033	0.121469	0.024759	0.106857	0.019478	0.092326	0.014171
0.077771	0.008824	0.063208	0.003491	0.048637	-0.001829	0.034049	-0.007112
0.019437	-0.012343	0.004790	-0.017527	-0.009894	-0.022620	-0.024629	-0.027624
-0.039420	-0.032506	-0.054261	-0.037306	-0.069159	-0.042041	-0.084082	-0.046718
-0.099102	-0.051380	-0.114122	-0.056008	-0.129224	-0.060580	-0.144408	-0.065118
-0.159673	-0.069592	-0.175020	-0.073869	-0.190531	-0.078000	-0.206775	-0.080408

 $h/R_t = 0.410367$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.217959	-0.092326	-0.217633	-0.090857	-0.203755	-0.081208	-0.189143	-0.073216
-0.174449	-0.065608	-0.159673	-0.058408	-0.144735	-0.051437	-0.129796	-0.044727
-0.114775	-0.038253	-0.099673	-0.031984	-0.084571	-0.025943	-0.069445	-0.020131
-0.054229	-0.014555	-0.038971	-0.009233	-0.023649	-0.004175	-0.008269	0.000617
0.007146	0.005162	0.022604	0.009486	0.038090	0.013584	0.053608	0.017486
0.069143	0.021216	0.084735	0.024792	0.100245	0.028220	0.115755	0.031576
0.131347	0.034849	0.146857	0.038041	0.146939	0.038008	0.146857	0.037935
0.132082	0.032286	0.117224	0.026531	0.102449	0.020743	0.087755	0.014922
0.072963	0.009045	0.058171	0.003175	0.043371	-0.002675	0.028531	-0.008490
0.013665	-0.014261	-0.001242	-0.019976	-0.016196	-0.025633	-0.031208	-0.031200
-0.046269	-0.036686	-0.061396	-0.042114	-0.076563	-0.047502	-0.091755	-0.052849
-0.107102	-0.058212	-0.122367	-0.063567	-0.137796	-0.068857	-0.153224	-0.074163
-0.168735	-0.079420	-0.184408	-0.084571	-0.200163	-0.089469	-0.216653	-0.093061

TABLE II. - Continued.

 $h/R_t = 0.451429$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.223428	-0.102694	-0.223102	-0.101143	-0.208898	-0.091429	-0.194204	-0.083020
-0.179347	-0.074963	-0.164408	-0.067257	-0.149469	-0.059796	-0.134367	-0.052522
-0.119265	-0.045453	-0.104082	-0.038604	-0.088898	-0.031927	-0.073649	-0.025461
-0.058359	-0.019216	-0.043020	-0.013184	-0.027624	-0.007393	-0.012180	-0.001841
0.003315	0.003482	0.018849	0.008571	0.034424	0.013445	0.050041	0.018098
0.065682	0.022547	0.081355	0.026800	0.097061	0.030873	0.112735	0.034808
0.128408	0.038571	0.144163	0.042220	0.144245	0.042163	0.144245	0.042065
0.129306	0.035771	0.114531	0.029445	0.099673	0.023118	0.084816	0.016784
0.069910	0.010441	0.055004	0.004122	0.040665	-0.002169	0.025086	-0.008416
0.010065	-0.014629	-0.004993	-0.020792	-0.020106	-0.026914	-0.035265	-0.032996
-0.050482	-0.039020	-0.065739	-0.045029	-0.081053	-0.051012	-0.096408	-0.057012
-0.111837	-0.063012	-0.127265	-0.069020	-0.142775	-0.075029	-0.158286	-0.081053
-0.173877	-0.087020	-0.189633	-0.092980	-0.205551	-0.098694	-0.222041	-0.103428

 $h/R_t = 0.492408$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.222694	-0.109878	-0.222367	-0.108326	-0.208163	-0.098612	-0.193469	-0.089877
-0.178694	-0.081559	-0.163755	-0.073461	-0.148816	-0.065559	-0.133796	-0.057869
-0.118775	-0.050359	-0.103673	-0.043020	-0.088571	-0.035853	-0.073437	-0.028849
-0.058245	-0.022024	-0.043012	-0.015388	-0.027739	-0.008947	-0.012416	-0.002701
0.002942	0.003338	0.018351	0.009167	0.033804	0.014776	0.049306	0.020171
0.064841	0.025339	0.080441	0.030310	0.096082	0.035020	0.111673	0.039576
0.127347	0.043894	0.143102	0.048041	0.143265	0.047951	0.143184	0.047780
0.128490	0.040833	0.113796	0.033951	0.099020	0.027118	0.084245	0.020302
0.069429	0.013543	0.054555	0.006824	0.039641	0.000156	0.024686	-0.006469
0.009682	-0.013053	-0.005367	-0.019608	-0.020457	-0.026147	-0.035600	-0.032661
-0.050776	-0.039167	-0.066000	-0.045682	-0.081249	-0.052196	-0.096571	-0.058767
-0.111837	-0.065322	-0.127265	-0.071935	-0.142612	-0.078555	-0.158122	-0.085224
-0.173633	-0.091837	-0.189224	-0.098449	-0.204980	-0.104816	-0.221224	-0.110530

 $h/R_t = 0.533469$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.214531	-0.113224	-0.214122	-0.111755	-0.200082	-0.101959	-0.185714	-0.093061
-0.171102	-0.084408	-0.156490	-0.076016	-0.141714	-0.067804	-0.127020	-0.059780
-0.112163	-0.051878	-0.097388	-0.044171	-0.082531	-0.036596	-0.067641	-0.029167
-0.052727	-0.021894	-0.037780	-0.014767	-0.022800	-0.007801	-0.007791	-0.000999
0.007259	0.005629	0.022359	0.012065	0.037494	0.018302	0.052686	0.024335
0.067927	0.030147	0.083265	0.035731	0.098612	0.041102	0.113959	0.046220
0.129469	0.051086	0.144979	0.055706	0.145143	0.055560	0.145143	0.055404
0.130775	0.047943	0.116326	0.040571	0.101877	0.033298	0.087265	0.026114
0.072694	0.018996	0.058057	0.011943	0.043355	0.004944	0.028612	-0.002012
0.013812	-0.008939	-0.001022	-0.015853	-0.015902	-0.022759	-0.030816	-0.029673
-0.045755	-0.036612	-0.060735	-0.043576	-0.075731	-0.050563	-0.090775	-0.057608
-0.105796	-0.064669	-0.120979	-0.071796	-0.136082	-0.078922	-0.151265	-0.086041
-0.166449	-0.093306	-0.181796	-0.100408	-0.197224	-0.107347	-0.213061	-0.113714

 $h/R_t = 0.574531$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.200000	-0.112898	-0.199673	-0.111510	-0.185959	-0.101551	-0.171918	-0.092408
-0.157633	-0.083510	-0.143429	-0.074816	-0.129061	-0.066310	-0.114694	-0.058008
-0.100245	-0.049820	-0.085796	-0.041780	-0.071290	-0.033861	-0.056776	-0.026098
-0.042245	-0.018465	-0.027682	-0.010971	-0.013086	-0.003613	0.001536	0.003599
0.016188	0.010661	0.030882	0.017551	0.045624	0.024269	0.060416	0.030808
0.075257	0.037143	0.090204	0.043282	0.105061	0.049176	0.120163	0.054873
0.135184	0.060302	0.150367	0.065477	0.150531	0.065380	0.150531	0.065175
0.136490	0.057339	0.122531	0.049657	0.108326	0.042041	0.094204	0.034555
0.079951	0.027110	0.065657	0.019731	0.051306	0.012400	0.036914	0.005098
0.022473	-0.002185	0.007998	-0.009461	-0.006515	-0.016751	-0.021061	-0.024049
-0.035633	-0.031388	-0.050229	-0.038751	-0.064849	-0.046163	-0.079510	-0.053608
-0.094204	-0.061086	-0.108898	-0.068637	-0.123592	-0.076171	-0.138449	-0.083755
-0.153224	-0.091347	-0.168163	-0.098939	-0.183184	-0.106367	-0.198612	-0.113224

TABLE II. - Continued.

 $h/R_t = 0.615510$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.180735	-0.108979	-0.180490	-0.107837	-0.167265	-0.097714	-0.153551	-0.088326
-0.139837	-0.079208	-0.125959	-0.070278	-0.112000	-0.061518	-0.098041	-0.052922
-0.084082	-0.044473	-0.070065	-0.036171	-0.056024	-0.027984	-0.041951	-0.019935
-0.027853	-0.012008	-0.013731	-0.004209	0.000427	0.003463	0.014612	0.011004
0.028824	0.018400	0.043078	0.025649	0.057371	0.032743	0.071706	0.039682
0.086122	0.046441	0.100490	0.053029	0.115020	0.059429	0.129551	0.065641
0.144163	0.071633	0.158857	0.077412	0.159020	0.077339	0.159020	0.077151
0.145469	0.069118	0.131755	0.061143	0.118122	0.053290	0.104326	0.045494
0.090531	0.037771	0.076653	0.030073	0.062735	0.022408	0.048776	0.014776
0.034776	0.007144	0.020743	-0.000480	0.006678	-0.008118	-0.007420	-0.015771
-0.021543	-0.023461	-0.035690	-0.031184	-0.049869	-0.038939	-0.064073	-0.046718
-0.078278	-0.054547	-0.092571	-0.062433	-0.106857	-0.070318	-0.121224	-0.078261
-0.135592	-0.086204	-0.150041	-0.094122	-0.164571	-0.101959	-0.179592	-0.109306

 $h/R_t = 0.656571$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.158204	-0.101714	-0.157959	-0.100653	-0.145143	-0.090531	-0.132000	-0.080980
-0.118694	-0.071682	-0.105388	-0.062620	-0.091918	-0.053682	-0.078490	-0.044882
-0.064996	-0.036220	-0.051486	-0.027690	-0.037951	-0.019273	-0.024392	-0.010988
-0.010800	-0.002809	0.002814	0.005242	0.016457	0.013176	0.030122	0.020988
0.043829	0.028669	0.057559	0.036220	0.071331	0.043624	0.085143	0.050898
0.099020	0.058033	0.112898	0.064963	0.126857	0.071780	0.140898	0.078433
0.154939	0.084898	0.169061	0.091184	0.169224	0.091102	0.169224	0.090939
0.156163	0.082775	0.142939	0.074588	0.129714	0.066531	0.116408	0.058514
0.103184	0.050547	0.089796	0.042588	0.076343	0.034669	0.062898	0.026767
0.049412	0.018873	0.035878	0.010971	0.022327	0.003056	0.008743	-0.004880
-0.004867	-0.012841	-0.018506	-0.020841	-0.032163	-0.028873	-0.045853	-0.036947
-0.059567	-0.045061	-0.073314	-0.053224	-0.087102	-0.061412	-0.100898	-0.069624
-0.114775	-0.077869	-0.128653	-0.086041	-0.142775	-0.094286	-0.157143	-0.101959

 $h/R_t = 0.697633$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.132408	-0.090775	-0.132245	-0.089877	-0.120082	-0.079673	-0.107429	-0.070106
-0.094694	-0.060759	-0.081959	-0.051567	-0.069135	-0.042522	-0.056286	-0.033608
-0.043404	-0.024816	-0.030490	-0.016131	-0.017551	-0.007567	-0.004597	0.000886
0.008384	0.009233	0.021388	0.017461	0.034424	0.025592	0.047478	0.033600
0.060571	0.041494	0.073690	0.049265	0.086857	0.056914	0.100082	0.064416
0.113306	0.071780	0.126531	0.078971	0.139918	0.086041	0.153224	0.092980
0.166694	0.099755	0.180163	0.106286	0.180326	0.106286	0.180326	0.106122
0.167755	0.097878	0.155184	0.089633	0.142531	0.081494	0.129796	0.073339
0.117143	0.065249	0.104408	0.057184	0.091592	0.049118	0.078678	0.041037
0.065780	0.032971	0.052857	0.024890	0.039894	0.016792	0.026914	0.008661
0.013910	0.000505	0.000880	-0.007689	-0.012171	-0.015918	-0.025249	-0.024196
-0.038351	-0.032506	-0.051478	-0.040865	-0.064637	-0.049257	-0.077829	-0.057690
-0.091102	-0.066139	-0.104326	-0.074580	-0.117714	-0.082939	-0.131510	-0.090939

 $h/R_t = 0.738694$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.103510	-0.075633	-0.103347	-0.074792	-0.091755	-0.064767	-0.079869	-0.055233
-0.067829	-0.045894	-0.055739	-0.036718	-0.043608	-0.027657	-0.031453	-0.018718
-0.019257	-0.009886	-0.007041	-0.001165	0.005199	0.007454	0.017461	0.015976
0.029747	0.024384	0.042057	0.032702	0.054384	0.040906	0.066735	0.049004
0.079126	0.056988	0.091510	0.064865	0.104000	0.072612	0.116490	0.080229
0.128980	0.087755	0.141551	0.095020	0.154122	0.102286	0.166857	0.109306
0.179510	0.116245	0.192326	0.122939	0.192408	0.122939	0.192408	0.122775
0.180571	0.114531	0.168571	0.106449	0.156653	0.098204	0.144653	0.090122
0.132571	0.081959	0.120490	0.073886	0.108326	0.065763	0.096163	0.057649
0.084000	0.049535	0.071755	0.041380	0.059502	0.033200	0.047216	0.024988
0.034914	0.016743	0.022588	0.008457	0.010237	0.000129	-0.002138	-0.008237
-0.014531	-0.016645	-0.026955	-0.025094	-0.039396	-0.033576	-0.051886	-0.042090
-0.064400	-0.050637	-0.076988	-0.059176	-0.089633	-0.067624	-0.102694	-0.075780

TABLE II. - Continued.

 $h/R_t = 0.779673$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.071690	-0.056384	-0.071633	-0.055633	-0.060759	-0.045796	-0.049600	-0.036392
-0.038343	-0.027159	-0.027029	-0.018082	-0.015682	-0.009110	-0.004295	-0.000241
0.007115	0.008522	0.018547	0.017184	0.030000	0.025755	0.041478	0.034220
0.052980	0.042596	0.064498	0.050865	0.076041	0.059045	0.087592	0.067102
0.099184	0.075078	0.110857	0.082939	0.122449	0.090612	0.134122	0.098204
0.145877	0.105714	0.157633	0.113061	0.169388	0.120245	0.181224	0.127265
0.193143	0.134204	0.205061	0.140898	0.205224	0.140898	0.205143	0.140735
0.194122	0.132735	0.182939	0.124735	0.171673	0.116735	0.160490	0.108735
0.149224	0.100735	0.137877	0.092653	0.126531	0.084653	0.115184	0.076612
0.103755	0.068522	0.092245	0.060416	0.080816	0.052286	0.069314	0.044106
0.057804	0.035886	0.046261	0.027624	0.034702	0.019322	0.023127	0.010980
0.011527	0.002586	-0.000096	-0.005843	-0.011747	-0.014310	-0.023429	-0.022808
-0.035143	-0.031331	-0.046922	-0.039853	-0.058792	-0.048327	-0.070947	-0.056506

 $h/R_t = 0.820735$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
-0.037184	-0.032408	-0.037151	-0.031739	-0.027127	-0.022237	-0.016849	-0.013118
-0.006472	-0.004153	0.003956	0.004680	0.014416	0.013412	0.024906	0.022041
0.035429	0.030571	0.045959	0.039020	0.056514	0.047363	0.067094	0.055624
0.077690	0.063788	0.088326	0.071869	0.098939	0.079829	0.109633	0.087673
0.120245	0.095510	0.131020	0.103102	0.141714	0.110694	0.152490	0.118122
0.163347	0.125388	0.174122	0.132571	0.185061	0.139510	0.195918	0.146449
0.206857	0.153224	0.217878	0.159837	0.217959	0.159755	0.217959	0.159673
0.207755	0.152000	0.197469	0.144245	0.187102	0.136571	0.176735	0.128816
0.166367	0.121061	0.155918	0.113224	0.145469	0.105469	0.134939	0.097633
0.124490	0.089796	0.113877	0.081877	0.103347	0.073976	0.092735	0.065984
0.082122	0.057959	0.071494	0.049894	0.060841	0.041780	0.050180	0.033616
0.039478	0.025420	0.028776	0.017167	0.018033	0.008890	0.007272	0.000567
-0.003527	-0.007778	-0.014384	-0.016122	-0.025314	-0.024433	-0.036522	-0.032498

 $h/R_t = 0.861796$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
0.000076	-0.003271	0.000097	-0.002684	0.009110	0.006284	0.018367	0.014914
0.027706	0.023404	0.037086	0.031771	0.046506	0.040049	0.055943	0.048229
0.065412	0.056318	0.074898	0.064318	0.084408	0.072245	0.093959	0.080041
0.103428	0.087755	0.112980	0.095429	0.122531	0.103020	0.132163	0.110449
0.141796	0.117796	0.151429	0.125061	0.161143	0.132245	0.170775	0.139265
0.180490	0.146204	0.190204	0.152980	0.200000	0.159673	0.209796	0.166204
0.219673	0.172653	0.229633	0.178939	0.229714	0.178857	0.229714	0.178857
0.220408	0.171592	0.211184	0.164326	0.201877	0.157061	0.192571	0.149796
0.183265	0.142531	0.173877	0.135184	0.164490	0.127837	0.155020	0.120408
0.145469	0.112980	0.136000	0.105551	0.126531	0.097959	0.116980	0.090449
0.107429	0.082857	0.097878	0.075184	0.088326	0.067469	0.078686	0.059722
0.069061	0.051918	0.059429	0.044073	0.049763	0.036196	0.040073	0.028269
0.030359	0.020318	0.020588	0.012351	0.010743	0.004406	0.000661	-0.003326

 $h/R_t = 0.902775$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
0.040033	0.031388	0.040041	0.031886	0.047869	0.040065	0.055918	0.047951
0.064033	0.055706	0.072188	0.063355	0.080375	0.070906	0.088571	0.078343
0.096816	0.085796	0.105061	0.092980	0.113388	0.100245	0.121551	0.107429
0.129878	0.114449	0.138204	0.121388	0.146449	0.128245	0.154857	0.135020
0.163265	0.141796	0.171592	0.148326	0.180000	0.154857	0.188408	0.161306
0.196898	0.167510	0.205388	0.173796	0.213877	0.179837	0.222367	0.185796
0.230939	0.191673	0.239510	0.197388	0.239592	0.197388	0.239592	0.197306
0.231592	0.190775	0.223510	0.184245	0.215510	0.177714	0.207429	0.171184
0.199265	0.164490	0.191102	0.157796	0.182857	0.151184	0.174694	0.144490
0.166449	0.137714	0.158204	0.130939	0.149959	0.124082	0.141633	0.117224
0.133388	0.110286	0.125061	0.103265	0.116735	0.096326	0.108326	0.089224
0.100000	0.082041	0.091592	0.074906	0.083265	0.067698	0.074808	0.060433
0.066359	0.053135	0.057861	0.045820	0.049306	0.038506	0.040531	0.031355

TABLE II. - Concluded.

 $h/R_t = 0.943837$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
0.081412	0.070816	0.081412	0.071233	0.088000	0.078359	0.094612	0.085224
0.101469	0.092000	0.108245	0.098612	0.115102	0.105224	0.121959	0.111673
0.128816	0.118122	0.135673	0.124408	0.142612	0.130694	0.149469	0.136898
0.156408	0.143020	0.163265	0.148980	0.170286	0.155020	0.177224	0.160898
0.184245	0.166694	0.191184	0.172408	0.198286	0.178041	0.205306	0.183673
0.212326	0.189143	0.219429	0.194531	0.226531	0.199837	0.233633	0.205061
0.240816	0.210204	0.248000	0.215265	0.248000	0.215184	0.248082	0.215102
0.241388	0.209469	0.234694	0.203755	0.227918	0.198041	0.221143	0.192326
0.214367	0.186612	0.207592	0.180816	0.200735	0.175102	0.193878	0.169224
0.187020	0.163347	0.180082	0.157551	0.173224	0.151592	0.166286	0.145551
0.159347	0.139592	0.152408	0.133551	0.145469	0.127429	0.138449	0.121306
0.131510	0.115102	0.124490	0.108898	0.117469	0.102612	0.110449	0.096245
0.103428	0.089877	0.096326	0.083510	0.089143	0.077110	0.081796	0.070800

 $h/R_t = 0.984898$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
0.126041	0.115510	0.125959	0.115837	0.130939	0.121469	0.136082	0.126939
0.141143	0.132245	0.146367	0.137551	0.151592	0.142775	0.156816	0.147837
0.161959	0.152898	0.167265	0.157877	0.172408	0.162857	0.177714	0.167755
0.182939	0.172571	0.188245	0.177306	0.193551	0.181959	0.198857	0.186694
0.204082	0.191265	0.209469	0.195755	0.214775	0.200163	0.220163	0.204571
0.225469	0.208980	0.230939	0.213224	0.236245	0.217388	0.241714	0.221551
0.247184	0.225633	0.252653	0.229633	0.252735	0.229633	0.252735	0.229551
0.247592	0.225061	0.242531	0.220571	0.237388	0.216000	0.232245	0.211510
0.227184	0.207020	0.221959	0.202449	0.216735	0.197878	0.211592	0.193306
0.206367	0.188653	0.201143	0.184082	0.195837	0.179347	0.190531	0.174612
0.185306	0.169959	0.180082	0.165143	0.174775	0.160326	0.169469	0.155510
0.164163	0.150612	0.158857	0.145714	0.153551	0.140735	0.148163	0.135755
0.142775	0.130612	0.137388	0.125633	0.131918	0.120490	0.126367	0.115510

 $h/R_t = 1.005387$

X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t	X/R_t	Y/R_t
0.149469	0.140571	0.149469	0.140816	0.153551	0.145469	0.157796	0.149959
0.161959	0.154367	0.166286	0.158775	0.170531	0.163020	0.174775	0.167265
0.179102	0.171510	0.183429	0.175592	0.187673	0.179673	0.192000	0.183755
0.196326	0.187673	0.200653	0.191673	0.204980	0.195592	0.209388	0.199510
0.213714	0.203265	0.218041	0.207020	0.222449	0.210775	0.226857	0.214449
0.231347	0.218041	0.235673	0.221633	0.240163	0.225143	0.244571	0.228653
0.249061	0.232000	0.253551	0.235429	0.253633	0.235429	0.253633	0.235347
0.249469	0.231592	0.245306	0.227837	0.241061	0.224082	0.236816	0.220245
0.232653	0.216490	0.228326	0.212735	0.224082	0.208898	0.219837	0.205061
0.215510	0.201224	0.211265	0.197388	0.206939	0.193469	0.202612	0.189633
0.198204	0.185633	0.193878	0.181714	0.189551	0.177714	0.185224	0.173633
0.180816	0.169633	0.176490	0.165551	0.172082	0.161388	0.167673	0.157306
0.163265	0.153061	0.158857	0.148898	0.154367	0.144653	0.149796	0.140571

TABLE III.—LV VELOCITY DATA FORMAT

Set of 30 values of axial velocity ratio ^a		Set of 30 values of radial or tangential velocity ratio ^a	
XXXX	XXXX at $\theta = 0.75$	XXXX at $\theta = 0.75$	XXXX at $\theta = 0.75$
XXXX	XXXX at $\theta = 2.25$	XXXX at $\theta = 2.25$	XXXX at $\theta = 2.25$
XXXX	XXXX at $\theta = 3.75$	XXXX at $\theta = 3.75$	XXXX at $\theta = 3.75$
XXXX	XXXX at $\theta = 5.25$	XXXX at $\theta = 5.25$	XXXX at $\theta = 5.25$
XXXX	XXXX at $\theta = 6.75$	XXXX at $\theta = 6.75$	XXXX at $\theta = 6.75$
XXXX	XXXX at $\theta = 8.25$	XXXX at $\theta = 8.25$	XXXX at $\theta = 8.25$
XXXX	XXXX at $\theta = 9.75$	XXXX at $\theta = 9.75$	XXXX at $\theta = 9.75$
XXXX	XXXX at $\theta = 11.25$	XXXX at $\theta = 11.25$	XXXX at $\theta = 11.25$
XXXX	XXXX at $\theta = 12.75$	XXXX at $\theta = 12.75$	XXXX at $\theta = 12.75$
XXXX	XXXX at $\theta = 14.25$	XXXX at $\theta = 14.25$	XXXX at $\theta = 14.25$
XXXX	XXXX at $\theta = 15.75$	XXXX at $\theta = 15.75$	XXXX at $\theta = 15.75$
XXXX	XXXX at $\theta = 17.25$	XXXX at $\theta = 17.25$	XXXX at $\theta = 17.25$
XXXX	XXXX at $\theta = 18.75$	XXXX at $\theta = 18.75$	XXXX at $\theta = 18.75$
XXXX	XXXX at $\theta = 20.25$	XXXX at $\theta = 20.25$	XXXX at $\theta = 20.25$
XXXX	XXXX at $\theta = 21.75$	XXXX at $\theta = 21.75$	XXXX at $\theta = 21.75$
XXXX	XXXX at $\theta = 23.25$	XXXX at $\theta = 23.25$	XXXX at $\theta = 23.25$
XXXX	XXXX at $\theta = 24.75$	XXXX at $\theta = 24.75$	XXXX at $\theta = 24.75$
XXXX	XXXX at $\theta = 26.25$	XXXX at $\theta = 26.25$	XXXX at $\theta = 26.25$
XXXX	XXXX at $\theta = 27.75$	XXXX at $\theta = 27.75$	XXXX at $\theta = 27.75$
XXXX	XXXX at $\theta = 29.25$	XXXX at $\theta = 29.25$	XXXX at $\theta = 29.25$
XXXX	XXXX at $\theta = 30.75$	XXXX at $\theta = 30.75$	XXXX at $\theta = 30.75$
XXXX	XXXX at $\theta = 32.25$	XXXX at $\theta = 32.25$	XXXX at $\theta = 32.25$
XXXX	XXXX at $\theta = 33.75$	XXXX at $\theta = 33.75$	XXXX at $\theta = 33.75$
XXXX	XXXX at $\theta = 35.25$	XXXX at $\theta = 35.25$	XXXX at $\theta = 35.25$
XXXX	XXXX at $\theta = 36.75$	XXXX at $\theta = 36.75$	XXXX at $\theta = 36.75$
XXXX	XXXX at $\theta = 38.25$	XXXX at $\theta = 38.25$	XXXX at $\theta = 38.25$
XXXX	XXXX at $\theta = 39.75$	XXXX at $\theta = 39.75$	XXXX at $\theta = 39.75$
XXXX	XXXX at $\theta = 41.75$	XXXX at $\theta = 41.75$	XXXX at $\theta = 41.75$
XXXX	XXXX at $\theta = 42.75$	XXXX at $\theta = 42.75$	XXXX at $\theta = 42.75$
Average (average of 30 axial velocity ratios)		Average (average of 30 radial or tangential velocity ratios)	

^a θ = position of propeller in degrees of rotation relative to zero of the angle encoder.

TABLE IV.—INDEX FOR LASER VELOCIMETER
VELOCITY DATA OF TABLE V

Type of operation	Type of velocity station	Velocity direction	Blade angle, deg	Nominal position	Page
Windmill	Inlet	Tangential	60.9	X/R _t	17
		Radial		.06	
		Radial		.09	
		Tangential		.08	
		Tangential		.31	
	Exit	Tangential		.30	25
		Radial		.33	
		Tangential		.86	
		Radial		.89	
		Tangential		1.11	
Powered	Inlet	Radial		1.14	38
		Tangential		.06	
		Tangential		.07	
		Radial		.08	
		Radial		.09	
		Radial		.08	
		Tangential		.31	
		Tangential		.33	
		Radial		.33	
		Tangential		.85	54
	Exit	Tangential		.86	
		Radial		.89	
		Tangential		1.11	
		Radial		1.14	
		Tangential	60.1	R/R _t	71
		Tangential		.79	
		Radial		.92	
		Tangential		1.02	
		Radial		1.12	
		Tangential		.50	
		Radial		.77	
		Tangential		.92	
		Radial		1.02	
		Tangential		.92	
	Interblade	Radial		1.06	88
		Tangential		1.12	
		Radial		1.02	
		Tangential	60.9	.91	
		Radial		1.06	
		Tangential		92	
		Radial		93	
		Tangential		95	
		Radial		95	

TABLE V. - VELOCITY DATA FOR THE SR-3 PROPELLER INLET VELOCITY - WINDMILL OPERATION

(1) Inlet velocity for windmill operation: nominal $X/R_t = 0.06$; $A_T = 338.54 \text{ m/s}$ (1110.7 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY										TANGENTIAL VELOCITY					
$R/R_t = 0.464 \quad X/R_t = 0.08$										POINT NUMBER = 3					
0.7171	0.7075	0.7114	0.7287	0.7226	0.7145	0.0001	0.0033	-0.0046	-0.0081	0.0022	0.0071				
0.7057	0.7220	0.7265	0.7177	0.7033	0.7123	0.0065	0.0086	0.0179	0.0073	0.0032	0.0112				
0.7158	0.7193	0.7161	0.7266	0.7195	0.7176	0.0191	0.0052	0.0102	0.0049	-0.0020	0.0021				
0.7231	0.7324	0.7182	0.7145	0.7238	0.7159	0.0020	0.0001	0.0080	0.0030	-0.0043	0.0118				
0.7113	0.7156	0.7217	0.7177	0.7240	0.7159	-0.0014	0.0140	0.0021	0.0016	0.0119	0.0063				
AVERAGE = 0.7184										AVERAGE = 0.0060					
$R/R_t = 0.547 \quad X/R_t = 0.07$										POINT NUMBER = 4					
0.7425	0.7229	0.7277	0.7323	0.7329	0.7314	0.0004	-0.0023	0.0099	0.0147	-0.0053	-0.0033				
0.7181	0.7444	0.7427	0.7305	0.7424	0.7205	0.0068	0.0067	-0.0054	0.0005	0.0014	0.0070				
0.7331	0.7258	0.7349	0.7220	0.7236	0.7270	0.0014	0.0014	-0.0013	-0.0030	-0.0020	0.0021				
0.7295	0.7251	0.7186	0.7401	0.7320	0.7240	0.0068	0.0098	0.0092	0.0132	0.0006	0.0005				
0.7412	0.7260	0.7486	0.7362	0.7276	0.7385	-0.0083	0.0041	-0.0052	0.0008	0.0010	0.0096				
AVERAGE = 0.7312										AVERAGE = 0.0022					
$R/R_t = 0.590 \quad X/R_t = 0.07$										POINT NUMBER = 5					
0.7466	0.7321	0.7382	0.7373	0.7448	0.7340	-0.0025	-0.0003	-0.0086	0.0006	-0.0152	-0.0023				
0.7547	0.7291	0.7337	0.7315	0.7285	0.7403	-0.0025	-0.0038	-0.0095	-0.0005	-0.0194	0.0118				
0.7265	0.7325	0.7397	0.7320	0.7253	0.7250	-0.0029	-0.0084	-0.0028	0.0014	-0.0049	-0.0047				
0.7403	0.7296	0.7383	0.7278	0.7319	0.7222	-0.0081	0.0016	0.0024	0.0116	-0.0112	0.0041				
0.7386	0.7250	0.7277	0.7301	0.7284	0.7310	0.0113	0.0078	-0.0035	0.0081	0.0037	-0.0041				
AVERAGE = 0.7335										AVERAGE = -0.0014					
$R/R_t = 0.630 \quad X/R_t = 0.07$										POINT NUMBER = 6					
0.7187	0.7186	0.7316	0.7236	0.7217	0.7218	0.0065	0.0061	0.0126	0.0086	0.0045	0.0107				
0.7238	0.7272	0.7206	0.7208	0.7214	0.7226	0.0132	0.0149	0.0112	0.0089	0.0040	0.0115				
0.7226	0.7219	0.7212	0.7192	0.7175	0.7224	0.0120	0.0108	0.0060	0.0112	0.0104	0.0076				
0.7204	0.7222	0.7206	0.7231	0.7251	0.7171	0.0060	0.0085	0.0111	0.0068	0.0120	0.0043				
0.7345	0.7233	0.7182	0.7245	0.7248	0.7226	0.0149	0.0123	0.0077	0.0128	0.0073	0.0113				
AVERAGE = 0.7224										AVERAGE = 0.0096					
$R/R_t = 0.670 \quad X/R_t = 0.07$										POINT NUMBER = 7					
0.7248	0.7297	0.7253	0.7204	0.7236	0.7266	0.0092	0.0059	0.0087	0.0059	0.0087	0.0084				
0.7254	0.7224	0.7362	0.7231	0.7258	0.7207	0.0047	0.0065	0.0201	0.0093	0.0112	0.0042				
0.7245	0.7215	0.7196	0.7244	0.7243	0.7256	0.0075	0.0043	0.0086	0.0081	0.0072	0.0098				
0.7286	0.7282	0.7246	0.7195	0.7172	0.7265	0.0086	0.0086	0.0081	0.0034	0.0035	0.0105				
0.7205	0.7264	0.7223	0.7248	0.7252	0.7262	0.0070	0.0046	0.0032	0.0102	0.0104	0.0131				
AVERAGE = 0.7243										AVERAGE = 0.0078					
$R/R_t = 0.713 \quad X/R_t = 0.07$										POINT NUMBER = 8					
0.7372	0.7352	0.7358	0.7304	0.7280	0.7255	0.0151	0.0194	0.0120	0.0139	0.0113	0.0053				
0.7264	0.7266	0.7250	0.7265	0.7253	0.7259	0.0065	0.0078	0.0055	0.0082	0.0039	0.0086				
0.7264	0.7249	0.7313	0.7255	0.7238	0.7310	0.0104	0.0076	0.0162	0.0112	0.0050	0.0146				
0.7265	0.7273	0.7294	0.7279	0.7261	0.7355	0.0095	0.0080	0.0039	0.0068	0.0075	0.0179				
0.7257	0.7304	0.7268	0.7258	0.7313	0.7270	0.0008	0.0096	0.0084	0.0090	0.0105	0.0057				
AVERAGE = 0.7285										AVERAGE = 0.0096					
$R/R_t = 0.756 \quad X/R_t = 0.07$										POINT NUMBER = 9					
0.7304	0.7314	0.7250	0.7265	0.7255	0.7324	0.0083	0.0092	0.0034	0.0051	0.0060	0.0079				
0.7205	0.7318	0.7286	0.7299	0.7257	0.7289	0.0027	0.0102	0.0033	0.0010	0.0074	0.0015				
0.7257	0.7291	0.7278	0.7255	0.7285	0.7273	0.0086	0.0050	0.0072	0.0059	0.0079	0.0039				
0.7330	0.7268	0.7240	0.7243	0.7257	0.7284	0.0067	0.0098	0.0033	0.0033	0.0045	0.0083				
0.7294	0.7269	0.7295	0.7264	0.7235	0.7246	0.0107	0.0067	0.0063	0.0068	0.0045	0.0071				
AVERAGE = 0.7276										AVERAGE = 0.0059					
$R/R_t = 0.798 \quad X/R_t = 0.07$										POINT NUMBER = 10					
0.7299	0.7342	0.7309	0.7326	0.7294	0.7315	0.0059	0.0077	0.0047	0.0069	0.0051	0.0075				
0.7309	0.7303	0.7334	0.7290	0.7286	0.7299	0.0068	0.0018	0.0053	0.0047	0.0049	0.0051				
0.7314	0.7276	0.7262	0.7288	0.7276	0.7305	0.0060	0.0037	0.0038	0.0032	0.0033	0.0016				
0.7308	0.7279	0.7288	0.7323	0.7301	0.7312	0.0047	0.0057	0.0039	0.0059	0.0009	0.0059				
0.7294	0.7319	0.7332	0.7298	0.7311	0.7299	0.0037	0.0058	0.0077	0.0059	0.0051	0.0051				
AVERAGE = 0.7305										AVERAGE = 0.0052					

TABLE V. - Continued.

(1) Continued.

AXIAL VELOCITY							TANGENTIAL VELOCITY						
$R/R_t = 0.840 \quad X/R_t = 0.06$ POINT NUMBER = 11													
0.7294	0.7346	0.7294	0.7329	0.7364	0.7319	0.0048	0.0056	0.0062	0.0026	0.0058	0.0021		
0.7318	0.7304	0.7325	0.7293	0.7287	0.7313	0.0034	0.0038	0.0057	0.0014	0.0037	0.0040		
0.7291	0.7329	0.7292	0.7287	0.7281	0.7295	0.0040	0.0049	0.0006	0.0053	0.0006	0.0041		
0.7368	0.7306	0.7291	0.7282	0.7284	0.7285	0.0051	0.0049	0.0024	0.0024	0.0023	0.0017		
0.7314	0.7279	0.7285	0.7321	0.7310	0.7290	0.0035	0.0015	0.0026	0.0033	0.0021	0.0029		
AVERAGE = 0.7306							AVERAGE = 0.0034						
$R/R_t = 0.880 \quad X/R_t = 0.06$ POINT NUMBER = 12													
0.7308	0.7314	0.7327	0.7379	0.7299	0.7357	0.0004	0.0019	0.0038	0.0041	0.0014	0.0014		
0.7349	0.7362	0.7335	0.7358	0.7334	0.7362	0.0043	0.0041	-0.0000	0.0026	0.0062	0.0059		
0.7331	0.7332	0.7295	0.7332	0.7329	0.7327	0.0017	0.0046	0.0033	0.0022	0.0060	0.0049		
0.7342	0.7323	0.7340	0.7297	0.7376	0.7312	0.0030	0.0016	0.0019	0.0016	-0.0006	0.0011		
0.7332	0.7314	0.7318	0.7295	0.7296	0.7322	0.0063	0.0016	0.0017	0.0062	0.0026	0.0068		
AVERAGE = 0.7331							AVERAGE = 0.0032						
$R/R_t = 0.920 \quad X/R_t = 0.06$ POINT NUMBER = 13													
0.7382	0.7331	0.7313	0.7338	0.7353	0.7398	0.0065	0.0041	0.0036	0.0038	0.0056	0.0072		
0.7341	0.7340	0.7354	0.7330	0.7307	0.7332	0.0053	0.0041	0.0041	0.0041	0.0023	0.0028		
0.7339	0.7339	0.7325	0.7299	0.7321	0.7349	0.0009	0.0042	0.0027	0.0023	0.0041	0.0030		
0.7313	0.7349	0.7313	0.7347	0.7324	0.7320	0.0041	0.0068	0.0038	0.0043	0.0032	0.0048		
0.7313	0.7303	0.7276	0.7321	0.7367	0.7329	0.0056	0.0034	0.0014	0.0048	0.0034	0.0025		
AVERAGE = 0.7333							AVERAGE = 0.0040						
$R/R_t = 0.960 \quad X/R_t = 0.06$ POINT NUMBER = 14													
0.7311	0.7356	0.7324	0.7347	0.7358	0.7364	-0.0014	0.0025	0.0002	0.0028	0.0045	0.0023		
0.7365	0.7352	0.7315	0.7375	0.7358	0.7353	0.0051	0.0032	0.0019	0.0045	0.0044	0.0034		
0.7353	0.7331	0.7336	0.7351	0.7342	0.7376	0.0021	0.0025	0.0037	0.0033	0.0039	0.0047		
0.7328	0.7349	0.7365	0.7341	0.7320	0.7332	0.0004	0.0023	0.0039	0.0044	0.0034	0.0041		
0.7332	0.7352	0.7340	0.7347	0.7370	0.7361	0.0073	0.0033	0.0021	0.0038	0.0032	0.0026		
AVERAGE = 0.7347							AVERAGE = 0.0031						
$R/R_t = 0.998 \quad X/R_t = 0.06$ POINT NUMBER = 15													
0.7350	0.7367	0.7347	0.7339	0.7358	0.7352	-0.0003	0.0031	0.0032	0.0020	0.0039	0.0032		
0.7372	0.7358	0.7379	0.7385	0.7357	0.7366	0.0035	0.0034	0.0023	0.0046	0.0016	0.0019		
0.7377	0.7356	0.7332	0.7376	0.7354	0.7323	0.0006	0.0032	0.0018	0.0038	0.0036	-0.0003		
0.7347	0.7363	0.7340	0.7367	0.7357	0.7333	0.0014	0.0020	0.0018	0.0017	0.0023	0.0035		
0.7354	0.7347	0.7373	0.7396	0.7393	0.7381	0.0052	0.0042	0.0014	0.0053	0.0031	0.0033		
AVERAGE = 0.7360							AVERAGE = 0.0026						
$R/R_t = 1.041 \quad X/R_t = 0.06$ POINT NUMBER = 16													
0.7383	0.7333	0.7354	0.7364	0.7376	0.7380	0.0032	0.0012	0.0009	0.0061	0.0021	0.0041		
0.7404	0.7386	0.7370	0.7379	0.7378	0.7387	0.0021	0.0018	0.0033	0.0031	0.0056	0.0060		
0.7360	0.7395	0.7372	0.7372	0.7356	0.7358	0.0023	0.0022	0.0011	0.0026	-0.0002	0.0028		
0.7368	0.7371	0.7359	0.7366	0.7377	0.7366	0.0032	0.0030	0.0047	0.0020	0.0041	0.0012		
0.7376	0.7377	0.7383	0.7363	0.7346	0.7382	0.0011	0.0008	-0.0009	0.0033	-0.0000	-0.0004		
AVERAGE = 0.7372							AVERAGE = 0.0024						
$R/R_t = 1.083 \quad X/R_t = 0.06$ POINT NUMBER = 17													
0.7385	0.7385	0.7399	0.7380	0.7379	0.7383	0.0023	0.0028	0.0024	0.0007	0.0041	0.0032		
0.7400	0.7373	0.7383	0.7377	0.7381	0.7389	0.0039	0.0032	0.0011	0.0011	0.0009	0.0022		
0.7403	0.7361	0.7402	0.7376	0.7364	0.7356	0.0030	0.0017	0.0026	0.0005	-0.0019	-0.0006		
0.7389	0.7390	0.7393	0.7385	0.7395	0.7382	-0.0000	0.0026	0.0016	0.0040	0.0034	-0.0001		
0.7385	0.7379	0.7403	0.7420	0.7389	0.7380	-0.0004	0.0007	0.0015	0.0031	0.0028	0.0025		
AVERAGE = 0.7385							AVERAGE = 0.0019						
$R/R_t = 1.124 \quad X/R_t = 0.06$ POINT NUMBER = 1													
0.7380	0.7398	0.7399	0.7391	0.7383	0.7414	0.0029	0.0035	0.0020	0.0006	0.0014	0.0024		
0.7381	0.7386	0.7403	0.7380	0.7379	0.7362	0.0013	-0.0005	0.0003	0.0006	0.0019	0.0011		
0.7363	0.7375	0.7384	0.7375	0.7412	0.7352	0.0005	0.0006	0.0014	-0.0000	-0.0008	0.0004		
0.7381	0.7367	0.7364	0.7376	0.7381	0.7401	0.0029	0.0012	0.0023	0.0021	0.0023	0.0031		
0.7388	0.7347	0.7394	0.7391	0.7366	0.7394	0.0028	0.0027	0.0033	0.0023	0.0007	0.0014		
AVERAGE = 0.7382							AVERAGE = 0.0015						

TABLE V. - Continued.

(1) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.164 \quad X/R_t = 0.06$ POINT NUMBER = 2											
0.7401	0.7406	0.7369	0.7398	0.7420	0.7416	0.0009	0.0003	-0.0019	0.0042	0.0006	0.0010
0.7421	0.7416	0.7383	0.7399	0.7416	0.7410	0.0023	-0.0015	0.0005	-0.0018	0.0017	0.0016
0.7385	0.7381	0.7421	0.7404	0.7420	0.7400	0.0010	-0.0002	0.0005	0.0032	0.0024	0.0009
0.7376	0.7370	0.7380	0.7405	0.7408	0.7432	-0.0002	0.0021	-0.0020	-0.0008	0.0053	0.0041
0.7394	0.7387	0.7429	0.7398	0.7424	0.7387	0.0005	0.0012	0.0011	0.0014	0.0031	0.0033
AVERAGE	= 0.7402					AVERAGE	= 0.0011				
$R/R_t = 1.204 \quad X/R_t = 0.06$ POINT NUMBER = 3											
0.7384	0.7400	0.7394	0.7407	0.7420	0.7432	0.0014	-0.0023	0.0007	0.0018	0.0003	0.0006
0.7392	0.7380	0.7432	0.7409	0.7380	0.7380	0.0008	-0.0021	0.0031	0.0017	0.0014	-0.0017
0.7396	0.7367	0.7413	0.7381	0.7412	0.7373	0.0006	-0.0033	0.0019	-0.0002	0.0011	-0.0014
0.7404	0.7368	0.7374	0.7409	0.7398	0.7376	-0.0014	-0.0009	-0.0024	0.0024	0.0003	0.0003
0.7353	0.7374	0.7394	0.7383	0.7406	0.7411	-0.0025	0.0013	0.0009	-0.0022	0.0013	0.0021
AVERAGE	= 0.7393					AVERAGE	= 0.0001				
$R/R_t = 1.244 \quad X/R_t = 0.05$ POINT NUMBER = 4											
0.7430	0.7406	0.7418	0.7429	0.7435	0.7445	0.0017	-0.0013	0.0026	-0.0007	-0.0008	0.0002
0.7460	0.7435	0.7463	0.7440	0.7466	0.7412	0.0001	0.0003	-0.0024	0.0023	-0.0006	-0.0012
0.7417	0.7426	0.7417	0.7423	0.7451	0.7402	0.0022	-0.0006	-0.0000	0.0019	-0.0014	0.0005
0.7444	0.7430	0.7442	0.7471	0.7444	0.7418	-0.0001	0.0012	-0.0014	0.0017	0.0004	-0.0000
0.7445	0.7421	0.7426	0.7418	0.7393	0.7425	-0.0001	0.0004	0.0029	-0.0011	-0.0004	-0.0005
AVERAGE	= 0.7432					AVERAGE	= 0.0003				
$R/R_t = 1.284 \quad X/R_t = 0.05$ POINT NUMBER = 5											
0.7407	0.7420	0.7448	0.7453	0.7454	0.7417	-0.0009	0.0001	-0.0040	-0.0009	0.0005	-0.0022
0.7448	0.7461	0.7449	0.7441	0.7413	0.7394	-0.0026	0.0010	-0.0015	0.0008	-0.0003	-0.0036
0.7412	0.7425	0.7430	0.7426	0.7407	0.7433	-0.0014	-0.0016	-0.0032	-0.0008	-0.0015	-0.0002
0.7421	0.7431	0.7470	0.7444	0.7408	0.7458	-0.0015	-0.0019	-0.0016	-0.0009	0.0003	-0.0002
0.7437	0.7463	0.7430	0.7452	0.7425	0.7438	0.0003	0.0018	0.0023	0.0011	-0.0003	0.0006
AVERAGE	= 0.7434					AVERAGE	= -0.0007				
$R/R_t = 1.322 \quad X/R_t = 0.05$ POINT NUMBER = 6											
0.7421	0.7441	0.7435	0.7450	0.7429	0.7451	-0.0009	-0.0004	-0.0022	-0.0028	-0.0000	-0.0006
0.7426	0.7457	0.7439	0.7467	0.7403	0.7460	-0.0056	-0.0015	-0.0032	0.0010	0.0018	-0.0009
0.7434	0.7430	0.7442	0.7423	0.7447	0.7476	-0.0008	-0.0009	-0.0011	-0.0016	-0.0009	0.0023
0.7455	0.7430	0.7457	0.7442	0.7434	0.7441	-0.0007	-0.0005	-0.0014	-0.0007	-0.0014	-0.0008
0.7432	0.7441	0.7409	0.7445	0.7465	0.7451	0.0004	0.0012	-0.0006	-0.0001	0.0012	0.0006
AVERAGE	= 0.7441					AVERAGE	= -0.0008				
$R/R_t = 1.363 \quad X/R_t = 0.05$ POINT NUMBER = 7											
0.7465	0.7439	0.7454	0.7439	0.7432	0.7441	-0.0008	-0.0014	-0.0019	-0.0059	-0.0011	-0.0015
0.7421	0.7462	0.7444	0.7471	0.7445	0.7433	-0.0027	-0.0032	-0.0024	-0.0016	-0.0012	-0.0017
0.7438	0.7437	0.7443	0.7471	0.7455	0.7454	-0.0024	-0.0043	-0.0005	-0.0034	-0.0026	-0.0009
0.7430	0.7477	0.7453	0.7430	0.7451	0.7459	-0.0034	0.0009	-0.0038	-0.0021	-0.0031	-0.0004
0.7452	0.7452	0.7430	0.7443	0.7460	0.7436	-0.0002	-0.0013	-0.0021	-0.0033	-0.0020	-0.0038
AVERAGE	= 0.7451					AVERAGE	= -0.0024				
$R/R_t = 1.402 \quad X/R_t = 0.05$ POINT NUMBER = 8											
0.7460	0.7462	0.7460	0.7464	0.7461	0.7472	-0.0019	-0.0013	0.0005	-0.0021	-0.0034	-0.0048
0.7461	0.7457	0.7496	0.7470	0.7467	0.7452	-0.0041	-0.0038	-0.0035	-0.0024	-0.0022	-0.0020
0.7474	0.7476	0.7460	0.7434	0.7480	0.7462	-0.0022	-0.0038	-0.0005	-0.0032	0.0003	-0.0023
0.7463	0.7458	0.7457	0.7412	0.7465	0.7467	-0.0023	-0.0026	-0.0034	-0.0054	-0.0040	-0.0008
0.7422	0.7466	0.7467	0.7453	0.7454	0.7449	-0.0020	0.0002	-0.0020	0.0004	-0.0001	-0.0013
AVERAGE	= 0.7460					AVERAGE	= -0.0023				
$R/R_t = 1.478 \quad X/R_t = 0.05$ POINT NUMBER = 9											
0.7486	0.7460	0.7446	0.7467	0.7464	0.7451	-0.0042	-0.0041	-0.0046	-0.0028	-0.0012	-0.0046
0.7459	0.7495	0.7476	0.7476	0.7472	0.7464	-0.0045	-0.0048	-0.0032	-0.0057	-0.0059	-0.0068
0.7493	0.7487	0.7496	0.7467	0.7475	0.7494	-0.0065	-0.0025	-0.0072	-0.0053	-0.0042	-0.0047
0.7458	0.7499	0.7508	0.7448	0.7471	0.7471	-0.0033	-0.0003	-0.0050	-0.0051	-0.0023	-0.0022
0.7464	0.7460	0.7460	0.7475	0.7458	0.7464	-0.0040	-0.0016	-0.0018	-0.0015	-0.0028	-0.0028
AVERAGE	= 0.7472					AVERAGE	= -0.0039				

TABLE V. - Continued.

(1) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.560$ $X/R_t = 0.04$ POINT NUMBER = 10											
0.7489	0.7430	0.7435	0.7455	0.7484	0.7513	-0.0080	-0.0073	-0.0094	-0.0072	-0.0073	-0.0041
0.7482	0.7506	0.7469	0.7466	0.7466	0.7436	-0.0054	-0.0023	-0.0103	-0.0098	-0.0076	-0.0095
0.7394	0.7421	0.7480	0.7461	0.7523	0.7414	-0.0135	-0.0117	-0.0067	-0.0092	-0.0057	-0.0116
0.7424	0.7451	0.7396	0.7461	0.7455	0.7385	-0.0112	-0.0095	-0.0183	-0.0076	-0.0080	-0.0139
0.7422	0.7484	0.7495	0.7457	0.7530	0.7426	-0.0087	-0.0045	-0.0047	-0.0099	-0.0038	-0.0090
AVERAGE = 0.7456						AVERAGE = -0.0086					

(2) Inlet velocity for windmill operation: nominal $X/R_t = 0.09$; $A_T = 342.41 \text{ m/s}$ (1123.4 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.330$ $X/R_t = 0.09$ POINT NUMBER = 3											
0.6677	0.6678	0.6617	0.6609	0.6688	0.6674	0.0615	0.0690	0.0597	0.0717	0.0615	0.0696
0.6633	0.6607	0.6629	0.6703	0.6671	0.6676	0.0686	0.0628	0.0626	0.0669	0.0667	0.0695
0.6738	0.6696	0.6646	0.6695	0.6722	0.6685	0.0652	0.0689	0.0609	0.0596	0.0634	0.0667
0.6750	0.6666	0.6673	0.6678	0.6545	0.6658	0.0612	0.0688	0.0646	0.0698	0.0621	0.0634
0.6655	0.6632	0.6657	0.6610	0.6583	0.6694	0.0678	0.0599	0.0698	0.0673	0.0695	0.0677
AVERAGE = 0.6663						AVERAGE = 0.0658					
$R/R_t = 0.490$ $X/R_t = 0.09$ POINT NUMBER = 4											
0.6964	0.6936	0.6955	0.6948	0.6929	0.6964	0.0476	0.0408	0.0504	0.0459	0.0483	0.0423
0.6930	0.6978	0.6949	0.6927	0.7042	0.6992	0.0515	0.0471	0.0516	0.0493	0.0410	0.0477
0.6969	0.7019	0.6963	0.7043	0.7008	0.7068	0.0417	0.0404	0.0490	0.0412	0.0393	0.0442
0.6892	0.7003	0.6962	0.6884	0.6972	0.6944	0.0487	0.0426	0.0526	0.0436	0.0402	0.0474
0.6954	0.6974	0.7008	0.6950	0.6933	0.7000	0.0480	0.0420	0.0444	0.0421	0.0469	0.0457
AVERAGE = 0.6973						AVERAGE = 0.0458					
$R/R_t = 0.650$ $X/R_t = 0.09$ POINT NUMBER = 5											
0.7116	0.7206	0.7069	0.7103	0.7141	0.7022	0.0403	0.0366	0.0331	0.0437	0.0401	0.0330
0.7074	0.7101	0.7157	0.7149	0.7117	0.7137	0.0442	0.0345	0.0396	0.0321	0.0405	0.0397
0.7064	0.7140	0.7054	0.7179	0.7080	0.7137	0.0447	0.0393	0.0452	0.0328	0.0388	0.0349
0.7117	0.7155	0.7109	0.7090	0.7098	0.7100	0.0443	0.0349	0.0433	0.0424	0.0355	0.0437
0.7068	0.7078	0.7135	0.7160	0.7167	0.7142	0.0323	0.0372	0.0387	0.0335	0.0326	0.0360
AVERAGE = 0.7116						AVERAGE = 0.0384					
$R/R_t = 0.740$ $X/R_t = 0.09$ POINT NUMBER = 6											
0.7146	0.7134	0.7135	0.7067	0.7147	0.7178	0.0402	0.0401	0.0299	0.0318	0.0402	0.0320
0.7186	0.7134	0.7168	0.7153	0.7159	0.7071	0.0370	0.0364	0.0413	0.0349	0.0390	0.0361
0.7158	0.7160	0.7081	0.7166	0.7170	0.7159	0.0414	0.0401	0.0329	0.0392	0.0396	0.0334
0.7065	0.7166	0.7194	0.7121	0.7160	0.7144	0.0375	0.0411	0.0297	0.0415	0.0378	0.0416
0.7106	0.7159	0.7183	0.7187	0.7110	0.7144	0.0367	0.0331	0.0416	0.0433	0.0349	0.0437
AVERAGE = 0.7144						AVERAGE = 0.0377					
$R/R_t = 0.780$ $X/R_t = 0.09$ POINT NUMBER = 7											
0.7316	0.7236	0.7254	0.7308	0.7315	0.7136	0.0238	0.0278	0.0266	0.0271	0.0229	0.0407
0.7202	0.7313	0.7144	0.7199	0.7205	0.7411	0.0399	0.0247	0.0264	0.0361	0.0379	0.0207
0.7187	0.7345	0.7281	0.7187	0.7250	0.7270	0.0259	0.0260	0.0216	0.0339	0.0271	0.0293
0.7176	0.7179	0.7231	0.7203	0.7108	0.7266	0.0353	0.0299	0.0214	0.0265	0.0358	0.0247
0.7209	0.7213	0.7145	0.7226	0.7185	0.7212	0.0341	0.0316	0.0424	0.0389	0.0337	0.0365
AVERAGE = 0.7227						AVERAGE = 0.0307					
$R/R_t = 0.690$ $X/R_t = 0.09$ POINT NUMBER = 8											
0.7155	0.7232	0.7167	0.7182	0.7184	0.7186	0.0364	0.0359	0.0381	0.0367	0.0410	0.0369
0.7178	0.7173	0.7184	0.7125	0.7230	0.7160	0.0415	0.0378	0.0374	0.0354	0.0342	0.0322
0.7174	0.7161	0.7160	0.7155	0.7140	0.7142	0.0380	0.0377	0.0344	0.0389	0.0364	0.0384
0.7164	0.7164	0.7149	0.7119	0.7177	0.7152	0.0369	0.0415	0.0387	0.0347	0.0398	0.0394
0.7095	0.7105	0.7121	0.7143	0.7170	0.7163	0.0359	0.0323	0.0339	0.0399	0.0353	0.0351
AVERAGE = 0.7158						AVERAGE = 0.0370					

TABLE V. - Continued.

(2) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.610 \quad X/R_t = 0.10 \quad$ POINT NUMBER = 9											
0.7121	0.7086	0.7082	0.7047	0.7053	0.7034	0.0357	0.0425	0.0401	0.0412	0.0447	0.0436
0.7054	0.7067	0.7080	0.7028	0.7121	0.7055	0.0391	0.0410	0.0396	0.0443	0.0426	0.0459
0.7098	0.7040	0.7132	0.6971	0.7034	0.7079	0.0455	0.0404	0.0407	0.0396	0.0393	0.0425
0.7070	0.7038	0.7103	0.7061	0.7049	0.7057	0.0426	0.0330	0.0439	0.0360	0.0406	0.0421
0.7018	0.7038	0.7011	0.7065	0.7079	0.7102	0.0377	0.0406	0.0452	0.0482	0.0438	0.0404
AVERAGE	= 0.7065					AVERAGE	= 0.0418				
$R/R_t = 0.570 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 10											
0.7042	0.7006	0.6927	0.7023	0.7022	0.7026	0.0446	0.0436	0.0368	0.0450	0.0476	0.0454
0.7022	0.6963	0.7002	0.7019	0.7050	0.7001	0.0498	0.0461	0.0436	0.0472	0.0431	0.0482
0.7039	0.7027	0.7051	0.7070	0.7023	0.7059	0.0375	0.0475	0.0433	0.0388	0.0435	0.0466
0.7020	0.7034	0.7042	0.7027	0.7001	0.7029	0.0436	0.0442	0.0378	0.0458	0.0430	0.0441
0.7030	0.6999	0.7027	0.7033	0.7046	0.7030	0.0469	0.0475	0.0489	0.0458	0.0407	0.0406
AVERAGE	= 0.7023					AVERAGE	= 0.0443				
$R/R_t = 0.530 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 11											
0.6999	0.6991	0.6970	0.7019	0.6900	0.6943	0.0477	0.0482	0.0480	0.0472	0.0453	0.0430
0.6921	0.6957	0.6973	0.7005	0.6989	0.6992	0.0420	0.0475	0.0464	0.0481	0.0472	0.0478
0.6949	0.7030	0.7019	0.6989	0.6970	0.7022	0.0417	0.0472	0.0439	0.0475	0.0459	0.0458
0.6999	0.7033	0.7005	0.7039	0.7017	0.6989	0.0477	0.0385	0.0428	0.0453	0.0497	0.0404
0.7039	0.7016	0.6994	0.6929	0.6975	0.6968	0.0457	0.0438	0.0417	0.0463	0.0426	0.0480
AVERAGE	= 0.6987					AVERAGE	= 0.0455				
$R/R_t = 0.450 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 12											
0.6842	0.6933	0.6885	0.6886	0.6857	0.6863	0.0484	0.0517	0.0530	0.0487	0.0539	0.0539
0.6858	0.6845	0.6893	0.6847	0.6885	0.6902	0.0550	0.0537	0.0506	0.0442	0.0474	0.0570
0.6825	0.6882	0.6895	0.6913	0.6959	0.6925	0.0524	0.0531	0.0480	0.0497	0.0536	0.0504
0.6933	0.6869	0.6898	0.6897	0.6846	0.6904	0.0536	0.0475	0.0540	0.0474	0.0482	0.0527
0.6874	0.6871	0.6971	0.6865	0.6919	0.6919	0.0567	0.0442	0.0538	0.0582	0.0521	0.0528
AVERAGE	= 0.6892					AVERAGE	= 0.0519				
$R/R_t = 0.410 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 13											
0.6847	0.6732	0.6798	0.6738	0.6809	0.6806	0.0588	0.0592	0.0505	0.0576	0.0535	0.0564
0.6803	0.6842	0.6755	0.6819	0.6803	0.6846	0.0515	0.0547	0.0530	0.0489	0.0561	0.0551
0.6818	0.6833	0.6804	0.6764	0.6836	0.6843	0.0588	0.0575	0.0575	0.0531	0.0550	0.0470
0.6785	0.6811	0.6782	0.6860	0.6840	0.6869	0.0541	0.0555	0.0581	0.0551	0.0591	0.0580
0.6819	0.6816	0.6798	0.6897	0.6766	0.6825	0.0556	0.0554	0.0580	0.0529	0.0589	0.0618
AVERAGE	= 0.6811					AVERAGE	= 0.0556				
$R/R_t = 0.370 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 14											
0.6714	0.6757	0.6753	0.6682	0.6701	0.6692	0.0607	0.0572	0.0625	0.0618	0.0641	0.0623
0.6688	0.6760	0.6730	0.6722	0.6714	0.6738	0.0554	0.0560	0.0638	0.0617	0.0643	0.0637
0.6780	0.6738	0.6760	0.6746	0.6743	0.6756	0.0600	0.0618	0.0599	0.0588	0.0588	0.0547
0.6727	0.6684	0.6718	0.6746	0.6794	0.6736	0.0544	0.0635	0.0635	0.0627	0.0571	0.0592
0.6730	0.6712	0.6773	0.6775	0.6803	0.6811	0.0613	0.0635	0.0652	0.0630	0.0603	0.0610
AVERAGE	= 0.6740					AVERAGE	= 0.0608				
$R/R_t = 0.290 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 15											
0.6617	0.6582	0.6474	0.6578	0.6549	0.6576	0.0654	0.0680	0.0669	0.0631	0.0771	0.0698
0.6555	0.6570	0.6625	0.6521	0.6506	0.6457	0.0725	0.0725	0.0739	0.0745	0.0748	0.0652
0.6580	0.6554	0.6522	0.6578	0.6552	0.6573	0.0715	0.0714	0.0685	0.0705	0.0681	0.0663
0.6505	0.6510	0.6577	0.6612	0.6527	0.6548	0.0693	0.0730	0.0719	0.0656	0.0708	0.0729
0.6552	0.6571	0.6579	0.6540	0.6540	0.6570	0.0737	0.0709	0.0743	0.0674	0.0755	0.0674
AVERAGE	= 0.6553					AVERAGE	= 0.0705				
$R/R_t = 0.250 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 16											
0.6633	0.6620	0.6669	0.6614	0.6659	0.6718	0.0549	0.0582	0.0596	0.0634	0.0550	0.0586
0.6617	0.6602	0.6596	0.6625	0.6600	0.6609	0.0579	0.0575	0.0670	0.0632	0.0644	0.0594
0.6656	0.6587	0.6557	0.6610	0.6576	0.6630	0.0601	0.0589	0.0625	0.0647	0.0699	0.0572
0.6561	0.6564	0.6625	0.6568	0.6652	0.6596	0.0628	0.0673	0.0581	0.0685	0.0546	0.0589
0.6608	0.6637	0.6626	0.6572	0.6577	0.6612	0.0638	0.0588	0.0625	0.0548	0.0621	0.0587
AVERAGE	= 0.6620					AVERAGE	= 0.0604				

TABLE V. - Continued.

(3) Inlet velocity for windmill operation: nominal $X/R_t = 0.08$; $A_T = 344.24 \text{ m/s}$ (1129.4 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.080 \quad X/R_t = 0.09$						POINT NUMBER = 2					
0.7383	0.7334	0.7343	0.7345	0.7360	0.7366	0.0349	0.0344	0.0330	0.0333	0.0343	0.0352
0.7356	0.7335	0.7369	0.7314	0.7360	0.7377	0.0351	0.0375	0.0346	0.0373	0.0349	0.0348
0.7319	0.7367	0.7368	0.7301	0.7356	0.7318	0.0364	0.0403	0.0339	0.0390	0.0339	0.0364
0.7360	0.7334	0.7362	0.7352	0.7347	0.7288	0.0336	0.0315	0.0366	0.0347	0.0350	0.0360
0.7359	0.7369	0.7340	0.7331	0.7326	0.7345	0.0347	0.0354	0.0352	0.0342	0.0383	0.0336
AVERAGE = 0.7345						AVERAGE = 0.0353					
$R/R_t = 1.120 \quad X/R_t = 0.09$						POINT NUMBER = 3					
0.7390	0.7376	0.7416	0.7361	0.7392	0.7371	0.0351	0.0320	0.0376	0.0362	0.0326	0.0365
0.7390	0.7351	0.7392	0.7375	0.7356	0.7380	0.0352	0.0349	0.0359	0.0370	0.0370	0.0342
0.7387	0.7366	0.7376	0.7300	0.7351	0.7353	0.0359	0.0376	0.0350	0.0378	0.0346	0.0382
0.7378	0.7367	0.7353	0.7384	0.7373	0.7369	0.0323	0.0337	0.0338	0.0367	0.0352	0.0324
0.7315	0.7399	0.7360	0.7390	0.7383	0.7367	0.0401	0.0341	0.0341	0.0367	0.0379	0.0328
AVERAGE = 0.7372						AVERAGE = 0.0355					
$R/R_t = 1.270 \quad X/R_t = 0.09$						POINT NUMBER = 4					
0.7361	0.7433	0.7362	0.7381	0.7389	0.7393	0.0356	0.0390	0.0338	0.0348	0.0336	0.0359
0.7394	0.7393	0.7415	0.7392	0.7376	0.7373	0.0410	0.0344	0.0375	0.0347	0.0388	0.0307
0.7370	0.7361	0.7345	0.7382	0.7363	0.7361	0.0336	0.0350	0.0332	0.0333	0.0336	0.0325
0.7367	0.7345	0.7358	0.7370	0.7369	0.7376	0.0346	0.0305	0.0344	0.0348	0.0354	0.0345
0.7359	0.7355	0.7356	0.7357	0.7353	0.7364	0.0333	0.0344	0.0344	0.0356	0.0331	0.0353
AVERAGE = 0.7371						AVERAGE = 0.0346					
$R/R_t = 1.320 \quad X/R_t = 0.09$						POINT NUMBER = 5					
0.7406	0.7399	0.7356	0.7364	0.7369	0.7330	0.0346	0.0336	0.0380	0.0369	0.0335	0.0379
0.7384	0.7407	0.7407	0.7401	0.7314	0.7378	0.0359	0.0324	0.0346	0.0351	0.0398	0.0382
0.7369	0.7369	0.7358	0.7369	0.7368	0.7379	0.0333	0.0351	0.0357	0.0350	0.0337	0.0324
0.7374	0.7190	0.7368	0.7384	0.7401	0.7381	0.0352	0.0475	0.0375	0.0348	0.0366	0.0327
0.7376	0.7388	0.7391	0.7403	0.7352	0.7387	0.0321	0.0364	0.0319	0.0334	0.0336	0.0353
AVERAGE = 0.7376						AVERAGE = 0.0352					
$R/R_t = 1.230 \quad X/R_t = 0.09$						POINT NUMBER = 6					
0.7327	0.7388	0.7286	0.7359	0.7395	0.7392	0.0361	0.0353	0.0403	0.0361	0.0362	0.0360
0.7379	0.7374	0.7369	0.7334	0.7379	0.7347	0.0352	0.0337	0.0330	0.0359	0.0356	0.0364
0.7371	0.7342	0.7347	0.7368	0.7326	0.7350	0.0359	0.0316	0.0363	0.0341	0.0312	0.0339
0.7386	0.7305	0.7359	0.7354	0.7381	0.7389	0.0390	0.0363	0.0335	0.0367	0.0354	0.0328
0.7344	0.7358	0.7369	0.7384	0.7347	0.7307	0.0334	0.0308	0.0351	0.0366	0.0364	0.0378
AVERAGE = 0.7357						AVERAGE = 0.0352					
$R/R_t = 1.130 \quad X/R_t = 0.09$						POINT NUMBER = 7					
0.7355	0.7373	0.7365	0.7373	0.7322	0.7356	0.0360	0.0360	0.0344	0.0361	0.0335	0.0399
0.7358	0.7345	0.7302	0.7382	0.7361	0.7358	0.0369	0.0374	0.0376	0.0359	0.0363	0.0360
0.7326	0.7354	0.7337	0.7338	0.7322	0.7343	0.0383	0.0359	0.0343	0.0356	0.0368	0.0332
0.7369	0.7339	0.7348	0.7337	0.7320	0.7342	0.0350	0.0355	0.0358	0.0375	0.0330	0.0336
0.7339	0.7336	0.7313	0.7237	0.7353	0.7271	0.0381	0.0347	0.0345	0.0421	0.0357	0.0338
AVERAGE = 0.7345						AVERAGE = 0.0357					
$R/R_t = 1.040 \quad X/R_t = 0.09$						POINT NUMBER = 8					
0.7327	0.7298	0.7315	0.7329	0.7324	0.7320	0.0367	0.0394	0.0367	0.0381	0.0361	0.0389
0.7344	0.7330	0.7314	0.7339	0.7311	0.7338	0.0342	0.0365	0.0361	0.0351	0.0350	0.0372
0.7322	0.7257	0.7311	0.7263	0.7260	0.7336	0.0335	0.0427	0.0377	0.0351	0.0352	0.0372
0.7255	0.7291	0.7282	0.7287	0.7325	0.7214	0.0379	0.0383	0.0388	0.0359	0.0344	0.0390
0.7309	0.7207	0.7306	0.7259	0.7306	0.7288	0.0355	0.0401	0.0364	0.0393	0.0379	0.0395
AVERAGE = 0.7303						AVERAGE = 0.0369					
$R/R_t = 0.990 \quad X/R_t = 0.09$						POINT NUMBER = 9					
0.7286	0.7270	0.7283	0.7326	0.7300	0.7314	0.0409	0.0383	0.0387	0.0333	0.0366	0.0335
0.7256	0.7323	0.7272	0.7289	0.7325	0.7324	0.0391	0.0337	0.0389	0.0344	0.0340	0.0394
0.7300	0.7276	0.7312	0.7313	0.7287	0.7307	0.0360	0.0363	0.0367	0.0375	0.0334	0.0421
0.7270	0.7328	0.7230	0.7235	0.7322	0.7282	0.0362	0.0366	0.0341	0.0379	0.0361	0.0329
0.7308	0.7283	0.7258	0.7301	0.7333	0.7221	0.0338	0.0378	0.0370	0.0360	0.0375	0.0354
AVERAGE = 0.7295						AVERAGE = 0.0368					

TABLE V. - Continued.

(3) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.950 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 10											
0.7226	0.7242	0.7279	0.7287	0.7293	0.7231	0.0406	0.0353	0.0321	0.0352	0.0359	0.0415
0.7222	0.7296	0.7276	0.7267	0.7270	0.7280	0.0383	0.0358	0.0358	0.0352	0.0344	0.0382
0.7251	0.7293	0.7216	0.7291	0.7289	0.7302	0.0352	0.0395	0.0405	0.0382	0.0373	0.0408
0.7264	0.7293	0.7247	0.7275	0.7237	0.7252	0.0375	0.0368	0.0401	0.0381	0.0408	0.0349
0.7263	0.7215	0.7271	0.7217	0.7256	0.7290	0.0367	0.0373	0.0340	0.0363	0.0371	0.0379
AVERAGE	= 0.7268					AVERAGE	= 0.0369				
$R/R_t = 0.900 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 11											
0.7206	0.7265	0.7272	0.7249	0.7320	0.7282	0.0380	0.0364	0.0345	0.0377	0.0381	0.0334
0.7312	0.7260	0.7283	0.7264	0.7255	0.7283	0.0384	0.0358	0.0344	0.0372	0.0391	0.0356
0.7274	0.7237	0.7256	0.7267	0.7300	0.7277	0.0363	0.0469	0.0375	0.0376	0.0390	0.0396
0.7245	0.7241	0.7286	0.7236	0.7290	0.7245	0.0356	0.0395	0.0388	0.0375	0.0377	0.0390
0.7284	0.7281	0.7228	0.7243	0.7267	0.7260	0.0367	0.0365	0.0364	0.0383	0.0388	0.0378
AVERAGE	= 0.7273					AVERAGE	= 0.0377				
$R/R_t = 0.860 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 12											
0.7217	0.7251	0.7245	0.7234	0.7260	0.7114	0.0414	0.0398	0.0368	0.0366	0.0366	0.0458
0.7208	0.7138	0.7220	0.7227	0.7239	0.7166	0.0378	0.0422	0.0397	0.0415	0.0436	0.0395
0.7221	0.7230	0.7199	0.7278	0.7227	0.7183	0.0383	0.0379	0.0409	0.0382	0.0398	0.0421
0.7259	0.7227	0.7247	0.7227	0.7232	0.7218	0.0391	0.0366	0.0403	0.0363	0.0410	0.0416
0.7195	0.7193	0.7253	0.7213	0.7221	0.7237	0.0364	0.0408	0.0397	0.0360	0.0406	0.0403
AVERAGE	= 0.7222					AVERAGE	= 0.0398				
$R/R_t = 0.810 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 13											
0.7234	0.7204	0.7238	0.7186	0.7185	0.7199	0.0341	0.0372	0.0347	0.0352	0.0334	0.0372
0.7201	0.7237	0.7203	0.7204	0.7234	0.7198	0.0359	0.0339	0.0318	0.0367	0.0344	0.0332
0.7216	0.7188	0.7206	0.7199	0.7237	0.7234	0.0337	0.0382	0.0370	0.0382	0.0351	0.0348
0.7183	0.7220	0.7230	0.7168	0.7214	0.7222	0.0352	0.0370	0.0338	0.0375	0.0352	0.0344
0.7179	0.7190	0.7168	0.7178	0.7216	0.7219	0.0347	0.0343	0.0393	0.0347	0.0335	0.0349
AVERAGE	= 0.7210					AVERAGE	= 0.0351				
$R/R_t = 0.720 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 14											
0.7168	0.7135	0.7152	0.7165	0.7146	0.7150	0.0367	0.0367	0.0352	0.0339	0.0344	0.0361
0.7175	0.7166	0.7148	0.7145	0.7173	0.7135	0.0346	0.0355	0.0350	0.0370	0.0384	0.0379
0.7169	0.7163	0.7152	0.7137	0.7193	0.7180	0.0359	0.0382	0.0398	0.0359	0.0373	0.0356
0.7145	0.7139	0.7176	0.7177	0.7181	0.7185	0.0393	0.0396	0.0351	0.0353	0.0341	0.0370
0.7158	0.7115	0.7166	0.7167	0.7167	0.7167	0.0367	0.0384	0.0383	0.0390	0.0344	0.0352
AVERAGE	= 0.7160					AVERAGE	= 0.0365				
$R/R_t = 0.680 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 15											
0.7144	0.7121	0.7129	0.7077	0.7129	0.7140	0.0338	0.0383	0.0349	0.0368	0.0381	0.0371
0.7119	0.7089	0.7086	0.7080	0.7098	0.7115	0.0358	0.0413	0.0367	0.0397	0.0389	0.0413
0.7066	0.7101	0.7135	0.7114	0.7077	0.7079	0.0408	0.0413	0.0382	0.0364	0.0426	0.0399
0.7087	0.7120	0.7135	0.7121	0.7141	0.7118	0.0387	0.0406	0.0359	0.0398	0.0361	0.0380
0.7149	0.7096	0.7123	0.7148	0.7150	0.7136	0.0372	0.0381	0.0364	0.0395	0.0357	0.0377
AVERAGE	= 0.7121					AVERAGE	= 0.0383				
$R/R_t = 0.640 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 16											
0.7095	0.7090	0.7083	0.7086	0.7028	0.7094	0.0393	0.0375	0.0377	0.0376	0.0412	0.0389
0.7091	0.7094	0.7097	0.7057	0.7080	0.7078	0.0387	0.0389	0.0374	0.0399	0.0403	0.0387
0.7086	0.7090	0.7095	0.7080	0.7072	0.7096	0.0392	0.0374	0.0376	0.0369	0.0408	0.0403
0.7080	0.7106	0.7067	0.7078	0.7114	0.7114	0.0379	0.0366	0.0394	0.0415	0.0383	0.0345
0.7127	0.7085	0.7060	0.7090	0.7065	0.7050	0.0378	0.0383	0.0406	0.0374	0.0423	0.0413
AVERAGE	= 0.7088					AVERAGE	= 0.0385				
$R/R_t = 0.590 \quad X/R_t = 0.09 \quad$ POINT NUMBER = 17											
0.7050	0.7075	0.7049	0.7013	0.7027	0.7029	0.0390	0.0398	0.0391	0.0398	0.0401	0.0415
0.7018	0.7018	0.6965	0.7043	0.7058	0.6999	0.0397	0.0413	0.0446	0.0406	0.0406	0.0404
0.7021	0.7036	0.7053	0.7075	0.7059	0.7088	0.0416	0.0406	0.0396	0.0388	0.0392	0.0394
0.7028	0.7103	0.7049	0.7034	0.7029	0.7083	0.0422	0.0383	0.0397	0.0414	0.0398	0.0411
0.7030	0.7044	0.7053	0.7064	0.7050	0.7075	0.0424	0.0397	0.0456	0.0401	0.0421	0.0395
AVERAGE	= 0.7044					AVERAGE	= 0.0406				

TABLE V. - Continued.

(3) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.550 \quad X/R_t = 0.09$						POINT NUMBER = 18					
0.6983	0.7012	0.7013	0.6977	0.7000	0.6997	0.0443	0.0430	0.0434	0.0447	0.0409	0.0422
0.7005	0.6949	0.6963	0.6974	0.6971	0.7030	0.0426	0.0463	0.0455	0.0442	0.0413	0.0406
0.7001	0.6977	0.6948	0.7030	0.7031	0.6983	0.0434	0.0462	0.0437	0.0413	0.0390	0.0424
0.7017	0.7025	0.6988	0.7020	0.7024	0.7010	0.0431	0.0433	0.0445	0.0437	0.0437	0.0431
0.7019	0.7000	0.7014	0.7052	0.7029	0.7019	0.0413	0.0438	0.0437	0.0437	0.0407	0.0450
AVERAGE = 0.7008						AVERAGE = 0.0437					
$R/R_t = 0.510 \quad X/R_t = 0.09$						POINT NUMBER = 19					
0.7018	0.6961	0.6985	0.6969	0.6988	0.6966	0.0409	0.0403	0.0415	0.0424	0.0420	0.0424
0.6959	0.6962	0.6954	0.6959	0.6948	0.6968	0.0425	0.0432	0.0432	0.0379	0.0417	0.0408
0.6939	0.7009	0.6936	0.6951	0.6998	0.6975	0.0423	0.0367	0.0425	0.0403	0.0388	0.0434
0.7005	0.6971	0.6995	0.6991	0.6958	0.6932	0.0399	0.0395	0.0384	0.0402	0.0426	0.0429
0.7024	0.6972	0.6964	0.7001	0.6997	0.6963	0.0383	0.0395	0.0437	0.0396	0.0394	0.0388
AVERAGE = 0.6981						AVERAGE = 0.0409					
$R/R_t = 0.460 \quad X/R_t = 0.09$						POINT NUMBER = 20					
0.6915	0.6943	0.6905	0.6944	0.6896	0.6953	0.0451	0.0433	0.0441	0.0422	0.0421	0.0419
0.6895	0.6915	0.6922	0.6886	0.6877	0.6925	0.0437	0.0432	0.0444	0.0454	0.0446	0.0420
0.6912	0.6967	0.6916	0.6905	0.6930	0.6926	0.0424	0.0385	0.0429	0.0439	0.0421	0.0437
0.6940	0.6952	0.6908	0.6935	0.6950	0.6918	0.0422	0.0425	0.0431	0.0405	0.0413	0.0433
0.6896	0.6966	0.6906	0.6878	0.6911	0.6876	0.0454	0.0445	0.0402	0.0459	0.0415	0.0455
AVERAGE = 0.6921						AVERAGE = 0.0429					
$R/R_t = 0.420 \quad X/R_t = 0.09$						POINT NUMBER = 23					
0.6900	0.6869	0.6837	0.6911	0.6877	0.6853	0.0435	0.0459	0.0462	0.0421	0.0453	0.0478
0.6860	0.6876	0.6865	0.6847	0.6834	0.6909	0.0457	0.0460	0.0446	0.0461	0.0477	0.0431
0.6862	0.6870	0.6882	0.6879	0.6882	0.6915	0.0422	0.0455	0.0440	0.0452	0.0437	0.0406
0.6919	0.6860	0.6897	0.6899	0.6864	0.6873	0.0415	0.0464	0.0458	0.0437	0.0448	0.0441
0.6869	0.6898	0.6888	0.6912	0.6887	0.6856	0.0465	0.0432	0.0456	0.0438	0.0442	0.0448
AVERAGE = 0.6881						AVERAGE = 0.0451					
$R/R_t = 0.380 \quad X/R_t = 0.09$						POINT NUMBER = 24					
0.6816	0.6766	0.6797	0.6809	0.6753	0.6757	0.0485	0.0486	0.0477	0.0475	0.0543	0.0512
0.6732	0.6750	0.6772	0.6736	0.6753	0.6806	0.0522	0.0498	0.0508	0.0526	0.0458	0.0481
0.6773	0.6773	0.6782	0.6781	0.6760	0.6743	0.0498	0.0505	0.0486	0.0473	0.0528	0.0484
0.6754	0.6765	0.6836	0.6778	0.6776	0.6784	0.0500	0.0517	0.0468	0.0478	0.0498	0.0491
0.6821	0.6751	0.6797	0.6806	0.6793	0.6789	0.0479	0.0531	0.0478	0.0477	0.0504	0.0482
AVERAGE = 0.6789						AVERAGE = 0.0502					
$R/R_t = 0.340 \quad X/R_t = 0.09$						POINT NUMBER = 25					
0.6669	0.6719	0.6766	0.6770	0.6697	0.6715	0.0553	0.0505	0.0492	0.0460	0.0514	0.0530
0.6670	0.6701	0.6677	0.6696	0.6708	0.6646	0.0522	0.0536	0.0524	0.0551	0.0514	0.0552
0.6706	0.6671	0.6675	0.6685	0.6701	0.6673	0.0533	0.0550	0.0525	0.0517	0.0520	0.0522
0.6746	0.6743	0.6701	0.6719	0.6676	0.6735	0.0477	0.0499	0.0506	0.0522	0.0529	0.0508
0.6744	0.6735	0.6702	0.6761	0.6775	0.6724	0.0485	0.0506	0.0517	0.0491	0.0509	0.0510
AVERAGE = 0.6711						AVERAGE = 0.0516					
$R/R_t = 0.300 \quad X/R_t = 0.09$						POINT NUMBER = 26					
0.6577	0.6604	0.6635	0.6571	0.6556	0.6569	0.0608	0.0594	0.0590	0.0599	0.0619	0.0614
0.6581	0.6549	0.6690	0.6633	0.6590	0.6573	0.0617	0.0617	0.0560	0.0548	0.0565	0.0583
0.6610	0.6613	0.6591	0.6519	0.6605	0.6618	0.0563	0.0578	0.0602	0.0626	0.0563	0.0569
0.6627	0.6584	0.6646	0.6570	0.6589	0.6612	0.0587	0.0586	0.0542	0.0612	0.0594	0.0565
0.6636	0.6600	0.6589	0.6639	0.6653	0.6648	0.0599	0.0601	0.0603	0.0541	0.0570	0.0587
AVERAGE = 0.6604						AVERAGE = 0.0591					
$R/R_t = 0.250 \quad X/R_t = 0.09$						POINT NUMBER = 28					
0.6349	0.6293	0.6327	0.6434	0.6323	0.6347	0.0745	0.0763	0.0715	0.0679	0.0746	0.0734
0.6389	0.6325	0.6367	0.6323	0.6306	0.6329	0.0706	0.0741	0.0712	0.0763	0.0781	0.0761
0.6282	0.6291	0.6336	0.6378	0.6361	0.6340	0.0775	0.0758	0.0704	0.0725	0.0730	0.0699
0.6351	0.6377	0.6373	0.6405	0.6302	0.6333	0.0712	0.0704	0.0733	0.0690	0.0727	0.0752
0.6311	0.6362	0.6338	0.6362	0.6395	0.6349	0.0760	0.0750	0.0723	0.0722	0.0730	0.0723
AVERAGE = 0.6343						AVERAGE = 0.0734					

TABLE V. - Continued.

(3) Concluded.

AXIAL VELOCITY

RADIAL VELOCITY

R/R _t = 0.210 X/R _t = 0.09 POINT NUMBER = 29						R/R _t = 0.210 X/R _t = 0.09 POINT NUMBER = 29					
0.6185	0.6158	0.6094	0.6129	0.6215	0.6146	0.0808	0.0853	0.0877	0.0868	0.0835	0.0856
0.6149	0.6147	0.6201	0.6121	0.6236	0.6182	0.0857	0.0890	0.0796	0.0869	0.0785	0.0857
0.6173	0.6160	0.6126	0.6225	0.6180	0.6182	0.0828	0.0854	0.0829	0.0811	0.0826	0.0834
0.6135	0.6169	0.6159	0.6177	0.6187	0.6257	0.0864	0.0831	0.0840	0.0823	0.0834	0.0776
0.6171	0.6198	0.6214	0.6198	0.6197	0.6226	0.0870	0.0811	0.0799	0.0835	0.0815	0.0815
AVERAGE = 0.6180						AVERAGE = 0.0832					
R/R _t = 0.170 X/R _t = 0.09 POINT NUMBER = 30						R/R _t = 0.170 X/R _t = 0.09 POINT NUMBER = 30					
0.5901	0.5924	0.5914	0.5876	0.5885	0.5938	0.1036	0.1011	0.1034	0.1023	0.1018	0.0987
0.5888	0.5860	0.5861	0.5832	0.5846	0.5858	0.0991	0.1038	0.0984	0.1019	0.1042	0.1021
0.5958	0.5914	0.5941	0.5904	0.5829	0.5850	0.0924	0.1008	0.0996	0.1009	0.1030	0.1047
0.5885	0.5861	0.5852	0.5908	0.5962	0.5898	0.0966	0.1027	0.1024	0.1016	0.0994	0.1007
0.5886	0.5897	0.5890	0.5866	0.5861	0.5922	0.0993	0.0992	0.1017	0.1012	0.1057	0.1015
AVERAGE = 0.5890						AVERAGE = 0.1011					
R/R _t = 0.130 X/R _t = 0.09 POINT NUMBER = 32						R/R _t = 0.130 X/R _t = 0.09 POINT NUMBER = 32					
0.6048	0.6017	0.5983	0.6010	0.5962	0.6047	0.0946	0.0910	0.0983	0.0986	0.0971	0.0901
0.6094	0.6086	0.6133	0.6067	0.6051	0.6037	0.0869	0.0908	0.0852	0.0893	0.0903	0.0945
0.5991	0.6062	0.6024	0.6105	0.6044	0.5988	0.0945	0.0965	0.0883	0.0904	0.0943	0.0981
0.5941	0.5942	0.6026	0.6019	0.5992	0.6005	0.0966	0.0964	0.0945	0.0967	0.0991	0.0916
0.5908	0.6039	0.6017	0.5938	0.5994	0.5997	0.0980	0.0910	0.0917	0.1016	0.0931	0.0953
AVERAGE = 0.6022						AVERAGE = 0.0942					

(4) Inlet velocity for windmill operation: nominal X/R_t = 0.31; A_T = 338.94 m/s (1112.0 ft/s); β_{3/4} = 60.1°.

AXIAL VELOCITY

TANGENTIAL VELOCITY

R/R _t = 0.505 X/R _t = 0.32 POINT NUMBER = 9						R/R _t = 0.505 X/R _t = 0.32 POINT NUMBER = 9					
0.7209	0.7228	0.7183	0.7196	0.7184	0.7211	0.0003	0.0016	0.0001	0.0037	-0.0037	-0.0001
0.7179	0.7225	0.7219	0.7240	0.7209	0.7229	0.0038	-0.0009	0.0002	0.0047	-0.0025	-0.0004
0.7221	0.7246	0.7257	0.7202	0.7228	0.7219	0.0011	0.0005	0.0014	0.0039	0.0001	0.0034
0.7241	0.7195	0.7258	0.7218	0.7215	0.7235	-0.0012	0.0017	0.0021	0.0043	0.0019	0.0018
0.7234	0.7221	0.7223	0.7261	0.7213	0.7174	0.0023	0.0003	-0.0002	-0.0004	0.0010	0.0006
AVERAGE = 0.7224						AVERAGE = 0.0009					
R/R _t = 0.547 X/R _t = 0.32 POINT NUMBER = 10						R/R _t = 0.547 X/R _t = 0.32 POINT NUMBER = 10					
0.7231	0.7219	0.7243	0.7219	0.7260	0.7232	0.0029	0.0055	0.0054	0.0017	0.0100	0.0036
0.7164	0.7228	0.7266	0.7192	0.7236	0.7221	0.0006	-0.0010	-0.0002	0.0040	0.0031	0.0045
0.7262	0.7174	0.7236	0.7243	0.7219	0.7202	0.0040	0.0067	0.0042	0.0012	0.0088	0.0052
0.7213	0.7202	0.7275	0.7284	0.7232	0.7252	0.0067	0.0030	0.0069	0.0037	0.0072	0.0045
0.7191	0.7230	0.7204	0.7219	0.7228	0.7220	0.0028	0.0064	0.0046	0.0042	0.0041	0.0040
AVERAGE = 0.7228						AVERAGE = 0.0043					
R/R _t = 0.590 X/R _t = 0.32 POINT NUMBER = 11						R/R _t = 0.590 X/R _t = 0.32 POINT NUMBER = 11					
0.7184	0.7298	0.7283	0.7218	0.7221	0.7208	0.0036	0.0074	0.0087	0.0068	0.0141	0.0031
0.7300	0.7217	0.7291	0.7211	0.7260	0.7246	0.0108	0.0018	0.0090	0.0052	0.0016	0.0086
0.7223	0.7247	0.7245	0.7305	0.7280	0.7263	0.0049	0.0058	0.0094	0.0030	0.0103	0.0067
0.7244	0.7255	0.7326	0.7211	0.7263	0.7271	0.0070	0.0031	0.0040	0.0114	0.0084	0.0066
0.7263	0.7254	0.7267	0.7219	0.7223	0.7232	0.0094	0.0052	0.0072	0.0154	0.0077	0.0081
AVERAGE = 0.7251						AVERAGE = 0.0074					
R/R _t = 0.630 X/R _t = 0.32 POINT NUMBER = 12						R/R _t = 0.630 X/R _t = 0.32 POINT NUMBER = 12					
0.7249	0.7268	0.7237	0.7296	0.7230	0.7238	0.0066	0.0088	0.0067	0.0055	0.0104	0.0093
0.7245	0.7250	0.7343	0.7278	0.7227	0.7294	0.0020	0.0106	0.0064	0.0091	0.0097	0.0092
0.7288	0.7256	0.7196	0.7139	0.7274	0.7285	0.0096	0.0088	0.0103	0.0150	0.0059	0.0199
0.7301	0.7221	0.7291	0.7285	0.7222	0.7306	0.0063	0.0100	0.0087	0.0119	0.0079	0.0117
0.7276	0.7257	0.7293	0.7302	0.7199	0.7263	0.0066	0.0066	0.0116	0.0098	0.0129	0.0100
AVERAGE = 0.7259						AVERAGE = 0.0094					
R/R _t = 0.670 X/R _t = 0.31 POINT NUMBER = 13						R/R _t = 0.670 X/R _t = 0.31 POINT NUMBER = 13					
0.7262	0.7317	0.7259	0.7272	0.7251	0.7261	0.0117	0.0075	0.0074	0.0118	0.0110	0.0117
0.7302	0.7338	0.7313	0.7213	0.7293	0.7220	0.0094	0.0121	0.0089	0.0156	0.0121	0.0138
0.7189	0.7323	0.7248	0.7179	0.7204	0.7364	0.0183	0.0171	0.0123	0.0174	0.0167	0.0096
0.7300	0.7308	0.7295	0.7320	0.7301	0.7295	0.0117	0.0120	0.0121	0.0085	0.0094	0.0113
0.7278	0.7269	0.7212	0.7250	0.7289	0.7243	0.0096	0.0196	0.0156	0.0134	0.0141	0.0160
AVERAGE = 0.7271						AVERAGE = 0.0129					

TABLE V. - Continued.

(4) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.713 \quad X/R_t = 0.31$						POINT NUMBER = 14					
0.7235	0.7250	0.7258	0.7300	0.7239	0.7246	0.0190	0.0141	0.0171	0.0174	0.0195	0.0272
0.7246	0.7230	0.7112	0.7244	0.7195	0.7197	0.0281	0.0180	0.0315	0.0143	0.0172	0.0137
0.7242	0.7249	0.7192	0.7191	0.7243	0.7144	0.0135	0.0138	0.0183	0.0256	0.0154	0.0162
0.7294	0.7161	0.7263	0.7158	0.7405	0.7269	0.0121	0.0223	0.0172	0.0325	0.0144	0.0216
0.7216	0.7284	0.7275	0.7226	0.7265	0.7242	0.0225	0.0249	0.0229	0.0202	0.0179	0.0156
AVERAGE = 0.7235						AVERAGE = 0.0196					
$R/R_t = 0.756 \quad X/R_t = 0.31$						POINT NUMBER = 15					
0.7311	0.7351	0.7335	0.7374	0.7350	0.7333	0.0136	0.0056	0.0103	0.0088	0.0068	0.0045
0.7353	0.7353	0.7343	0.7347	0.7290	0.7322	0.0098	0.0091	0.0129	0.0032	0.0138	0.0148
0.7366	0.7374	0.7382	0.7472	0.7379	0.7392	0.0135	0.0062	0.0070	0.0176	0.0115	0.0075
0.7336	0.7370	0.7345	0.7404	0.7456	0.7245	0.0085	0.0146	0.0124	0.0059	0.0089	0.0220
0.7357	0.7346	0.7379	0.7354	0.7342	0.7380	0.0084	0.0043	0.0139	0.0072	0.0156	0.0103
AVERAGE = 0.7358						AVERAGE = 0.0100					
$R/R_t = 0.798 \quad X/R_t = 0.31$						POINT NUMBER = 16					
0.7318	0.7370	0.7459	0.7335	0.7414	0.7320	0.0089	0.0126	0.0127	0.0109	0.0085	0.0129
0.7353	0.7361	0.7379	0.7369	0.7415	0.7406	0.0097	0.0063	0.0170	0.0147	0.0082	0.0107
0.7304	0.7334	0.7354	0.7348	0.7440	0.7353	0.0093	0.0124	0.0128	0.0144	0.0069	0.0137
0.7273	0.7363	0.7404	0.7299	0.7421	0.7364	0.0212	0.0136	0.0094	0.0098	0.0120	0.0172
0.7388	0.7367	0.7450	0.7405	0.7364	0.7403	0.0072	0.0094	0.0077	0.0131	0.0165	0.0110
AVERAGE = 0.7371						AVERAGE = 0.0118					
$R/R_t = 0.840 \quad X/R_t = 0.31$						POINT NUMBER = 17					
0.7416	0.7342	0.7388	0.7426	0.7404	0.7428	0.0156	0.0103	0.0076	0.0076	0.0122	0.0119
0.7462	0.7372	0.7356	0.7385	0.7374	0.7469	0.0113	0.0102	0.0075	0.0057	0.0124	0.0131
0.7424	0.7374	0.7361	0.7472	0.7442	0.7392	0.0103	0.0070	0.0117	0.0178	0.0156	0.0281
0.7448	0.7411	0.7426	0.7456	0.7473	0.7407	0.0163	0.0119	0.0132	0.0085	0.0182	0.0115
0.7490	0.7477	0.7424	0.7405	0.7383	0.7419	0.0138	0.0103	0.0148	0.0105	0.0065	0.0073
AVERAGE = 0.7419						AVERAGE = 0.0114					
$R/R_t = 0.880 \quad X/R_t = 0.31$						POINT NUMBER = 18					
0.7427	0.7375	0.7421	0.7421	0.7417	0.7469	0.0121	0.0114	0.0111	0.0132	0.0189	0.0114
0.7402	0.7417	0.7370	0.7320	0.7378	0.7397	0.0101	0.0084	0.0108	0.0129	0.0170	0.0040
0.7343	0.7382	0.7447	0.7457	0.7314	0.7272	0.0111	0.0172	0.0144	0.0174	0.0112	0.0251
0.7342	0.7444	0.7353	0.7501	0.7455	0.7419	0.0177	0.0239	0.0094	0.0267	0.0116	0.0167
0.7411	0.7310	0.7398	0.7406	0.7374	0.7417	0.0081	0.0180	0.0147	0.0078	0.0123	0.0197
AVERAGE = 0.7394						AVERAGE = 0.0142					
$R/R_t = 0.920 \quad X/R_t = 0.31$						POINT NUMBER = 19					
0.7246	0.7446	0.7308	0.7426	0.7446	0.7441	0.0135	0.0175	0.0096	0.0066	0.0175	0.0123
0.7329	0.7453	0.7405	0.7421	0.7479	0.7277	0.0257	0.0137	0.0145	0.0069	0.0184	0.0131
0.7306	0.7295	0.7479	0.7348	0.7354	0.7410	0.0158	0.0240	0.0147	0.0292	0.0228	0.0107
0.7376	0.7453	0.7516	0.7439	0.7479	0.7368	0.0152	0.0182	0.0165	0.0124	0.0127	0.0159
0.7389	0.7222	0.7438	0.7223	0.7552	0.7431	0.0109	0.0284	0.0226	0.0224	0.0154	0.0233
AVERAGE = 0.7387						AVERAGE = 0.0170					
$R/R_t = 0.960 \quad X/R_t = 0.31$						POINT NUMBER = 20					
0.7432	0.7266	0.7299	0.7335	0.7240	0.7276	0.0238	0.0198	0.0129	0.0203	0.0322	0.0028
0.7519	0.7347	0.7406	0.7304	0.7419	0.7300	0.0253	0.0181	0.0254	0.0314	0.0207	0.0333
0.7164	0.7386	0.7291	0.7347	0.7446	0.7348	0.0316	0.0272	0.0317	0.0085	0.0237	0.0105
0.7203	0.7380	0.7283	0.7316	0.7438	0.7350	0.0467	0.0139	0.0229	0.0156	0.0196	0.0307
0.7342	0.7470	0.7236	0.7366	0.7337	0.7133	0.0132	0.0151	0.0274	0.0056	0.0145	0.0227
AVERAGE = 0.7344						AVERAGE = 0.0213					
$R/R_t = 0.998 \quad X/R_t = 0.31$						POINT NUMBER = 21					
0.7216	0.7175	0.7319	0.7165	0.7417	0.7166	0.0232	0.0277	0.0174	0.0213	0.0290	0.0301
0.7313	0.7176	0.7267	0.7303	0.7130	0.7388	0.0255	0.0261	0.0290	0.0175	0.0213	0.0347
0.7201	0.7180	0.7259	0.7171	0.7363	0.7281	0.0314	0.0244	0.0217	0.0178	0.0112	0.0290
0.7253	0.7179	0.7256	0.7453	0.7179	0.7253	0.0161	0.0287	0.0254	0.0187	0.0291	0.0271
0.7374	0.7381	0.7255	0.7257	0.7343	0.7350	0.0408	0.0228	0.0265	0.0218	0.0098	0.0206
AVERAGE = 0.7268						AVERAGE = 0.0239					

TABLE V. - Continued.

(4) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.041 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 23											
0.7408	0.7463	0.7440	0.7447	0.7280	0.7480	0.0102	0.0209	0.0097	0.0085	0.0076	0.0146
0.7479	0.7444	0.7439	0.7313	0.7374	0.7358	0.0125	0.0122	0.0098	0.0222	0.0137	0.0236
0.7454	0.7342	0.7387	0.7369	0.7434	0.7490	0.0104	0.0180	0.0152	0.0131	0.0129	0.0061
0.7426	0.7512	0.7493	0.7442	0.7435	0.7344	0.0133	0.0122	0.0076	0.0076	0.0107	0.0080
0.7429	0.7453	0.7424	0.7469	0.7465	0.7394	0.0151	0.0074	0.0121	0.0115	0.0110	0.0179
AVERAGE	= 0.7423					AVERAGE = 0.0129					
$R/R_t = 1.083 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 24											
0.7487	0.7442	0.7479	0.7374	0.7426	0.7455	0.0061	0.0146	0.0132	0.0137	0.0096	0.0183
0.7474	0.7337	0.7380	0.7389	0.7460	0.7514	0.0031	0.0183	0.0273	0.0166	0.0141	0.0094
0.7406	0.7324	0.7360	0.7350	0.7335	0.7528	0.0095	0.0249	0.0222	0.0150	0.0281	0.0150
0.7453	0.7468	0.7450	0.7388	0.7433	0.7392	0.0172	0.0119	0.0135	0.0153	0.0143	0.0166
0.7428	0.7400	0.7429	0.7373	0.7425	0.7344	0.0189	0.0178	0.0181	0.0090	0.0116	0.0209
AVERAGE	= 0.7415					AVERAGE = 0.0156					

(5) Inlet velocity for windmill operation: nominal $X/R_t = 0.30$; $A_T = 338.94 \text{ m/s}$ (1112.0 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.124 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 1											
0.7398	0.7386	0.7326	0.7485	0.7438	0.7467	0.0103	0.0115	0.0245	0.0136	0.0168	0.0299
0.7320	0.7450	0.7477	0.7474	0.7290	0.7369	0.0236	0.0125	0.0055	0.0144	0.0255	0.0208
0.7484	0.7429	0.7452	0.7548	0.7430	0.7432	0.0093	0.0176	0.0035	0.0148	0.0162	0.0147
0.7476	0.7395	0.7455	0.7384	0.7465	0.7442	0.0122	0.0058	0.0123	0.0179	0.0061	0.0165
0.7447	0.7388	0.7311	0.7397	0.7389	0.7396	0.0139	0.0184	0.0168	0.0165	0.0127	0.0143
AVERAGE	= 0.7421					AVERAGE = 0.0147					
$R/R_t = 1.164 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 2											
0.7472	0.7345	0.7406	0.7474	0.7452	0.7362	0.0098	0.0184	0.0154	0.0103	0.0134	0.0241
0.7374	0.7329	0.7450	0.7478	0.7465	0.7313	0.0186	0.0254	0.0174	0.0073	0.0076	0.0308
0.7361	0.7293	0.7361	0.7393	0.7418	0.7387	0.0286	0.0256	0.0159	0.0116	0.0201	0.0214
0.7496	0.7405	0.7399	0.7426	0.7434	0.7446	0.0169	0.0245	0.0191	0.0209	0.0146	0.0262
0.7384	0.7429	0.7356	0.7368	0.7374	0.7407	0.0183	0.0114	0.0228	0.0132	0.0186	0.0112
AVERAGE	= 0.7397					AVERAGE = 0.0183					
$R/R_t = 1.204 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 3											
0.7354	0.7176	0.7287	0.7403	0.7306	0.7326	0.0270	0.0379	0.0266	0.0174	0.0273	0.0231
0.7211	0.7270	0.7128	0.7460	0.7423	0.7308	0.0223	0.0294	0.0383	0.0264	0.0156	0.0333
0.7288	0.7317	0.7267	0.7483	0.7443	0.7336	0.0239	0.0276	0.0349	0.0187	0.0172	0.0292
0.7235	0.7323	0.7237	0.7397	0.7252	0.7363	0.0290	0.0275	0.0263	0.0158	0.0256	0.0229
0.7326	0.7395	0.7236	0.7333	0.7250	0.7326	0.0177	0.0152	0.0379	0.0306	0.0300	0.0236
AVERAGE	= 0.7326					AVERAGE = 0.0251					
$R/R_t = 1.244 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 4											
0.7398	0.7340	0.7269	0.7480	0.7337	0.7342	0.0167	0.0238	0.0331	0.0136	0.0239	0.0214
0.7459	0.7386	0.7389	0.7405	0.7092	0.7474	0.0185	0.0174	0.0124	0.0174	0.0412	0.0103
0.7405	0.7385	0.7433	0.7209	0.7279	0.7395	0.0102	0.0155	0.0142	0.0292	0.0260	0.0205
0.7453	0.7273	0.7368	0.7178	0.7373	0.7309	0.0090	0.0306	0.0237	0.0368	0.0073	0.0265
0.7414	0.7243	0.7379	0.7369	0.7359	0.7409	0.0162	0.0345	0.0132	0.0273	0.0266	0.0139
AVERAGE	= 0.7358					AVERAGE = 0.0207					
$R/R_t = 1.284 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 5											
0.7539	0.7431	0.7450	0.7467	0.7413	0.7417	0.0012	0.0126	0.0137	0.0110	0.0168	0.0122
0.7534	0.7505	0.7409	0.7405	0.7544	0.7540	0.0069	0.0092	0.0086	0.0143	0.0099	0.0019
0.7504	0.7487	0.7480	0.7499	0.7501	0.7441	0.0043	0.0126	0.0047	0.0093	0.0052	0.0100
0.7565	0.7422	0.7454	0.7505	0.7436	0.7494	-0.0004	0.0179	0.0157	0.0064	0.0076	0.0147
0.7473	0.7541	0.7498	0.7431	0.7532	0.7443	0.0119	0.0066	-0.0001	0.0129	0.0058	0.0130
AVERAGE	= 0.7481					AVERAGE = 0.0097					
$R/R_t = 1.322 \quad X/R_t = 0.30 \quad$ POINT NUMBER = 6											
0.7538	0.7387	0.7522	0.7518	0.7541	0.7476	0.0099	0.0201	0.0105	-0.0022	0.0031	0.0065
0.7476	0.7487	0.7468	0.7419	0.7461	0.7468	0.0102	0.0100	0.0056	0.0080	0.0053	0.0049
0.7450	0.7531	0.7555	0.7560	0.7563	0.7449	0.0061	0.0063	0.0012	-0.0003	0.0122	0.0199
0.7561	0.7474	0.7439	0.7535	0.7519	0.7579	0.0025	0.0105	0.0064	0.0037	0.0012	0.0036
0.7462	0.7509	0.7433	0.7580	0.7425	0.7574	0.0092	-0.0020	0.0086	-0.0002	0.0166	0.0077
AVERAGE	= 0.7500					AVERAGE = 0.0067					

TABLE V. - Continued.

(5) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.363 \quad X/R_t = 0.29$ POINT NUMBER = 7											
0.7585	0.7376	0.7531	0.7578	0.7522	0.7570	0.0002	0.0170	0.0022	0.0034	0.0100	0.0128
0.7556	0.7476	0.7460	0.7504	0.7548	0.7487	0.0040	0.0076	0.0062	0.0050	0.0002	0.0156
0.7468	0.7413	0.7469	0.7436	0.7563	0.7552	-0.0031	0.0140	0.0041	0.0090	-0.0008	0.0036
0.7588	0.7545	0.7567	0.7495	0.7435	0.7484	0.0017	0.0017	0.0086	0.0028	0.0083	0.0078
0.7567	0.7447	0.7522	0.7534	0.7612	0.7549	0.0015	0.0153	0.0040	0.0094	0.0046	0.0085
AVERAGE = 0.7518						AVERAGE = 0.0058					
$R/R_t = 1.402 \quad X/R_t = 0.29$ POINT NUMBER = 9											
0.7460	0.7386	0.7466	0.7474	0.7436	0.7486	0.0076	0.0172	0.0054	0.0081	0.0129	0.0090
0.7410	0.7576	0.7500	0.7496	0.7421	0.7261	0.0139	0.0040	0.0103	0.0094	0.0028	0.0270
0.7441	0.7459	0.7583	0.7459	0.7520	0.7460	0.0172	0.0192	0.0075	0.0050	0.0079	0.0032
0.7512	0.7496	0.7443	0.7538	0.7419	0.7482	0.0091	0.0072	0.0183	0.0102	0.0070	0.0038
0.7406	0.7627	0.7381	0.7535	0.7348	0.7453	-0.0052	0.0108	0.0317	0.0049	0.0211	0.0135
AVERAGE = 0.7467						AVERAGE = 0.0103					
$R/R_t = 1.478 \quad X/R_t = 0.29$ POINT NUMBER = 10											
0.7337	0.7353	0.7450	0.7358	0.7366	0.7362	0.0195	0.0183	0.0129	0.0153	0.0166	0.0178
0.7371	0.7444	0.7375	0.7479	0.7549	0.7380	0.0081	0.0200	0.0164	0.0071	0.0001	0.0140
0.7411	0.7507	0.7450	0.7457	0.7406	0.7543	0.0165	0.0074	0.0105	0.0121	0.0109	0.0045
0.7375	0.7476	0.7376	0.7314	0.7433	0.7389	0.0166	0.0111	0.0148	0.0254	0.0154	0.0099
0.7519	0.7392	0.7433	0.7292	0.7371	0.7533	0.0093	0.0191	0.0080	0.0148	0.0163	0.0038
AVERAGE = 0.7414						AVERAGE = 0.0135					
$R/R_t = 1.560 \quad X/R_t = 0.29$ POINT NUMBER = 11											
0.7549	0.7500	0.7483	0.7508	0.7371	0.7504	0.0097	0.0094	0.0088	0.0129	0.0144	0.0096
0.7384	0.7558	0.7609	0.7483	0.7576	0.7489	0.0043	0.0030	-0.0021	-0.0038	-0.0049	0.0103
0.7475	0.7363	0.7542	0.7451	0.7585	0.7475	0.0095	0.0147	-0.0018	0.0131	0.0034	0.0027
0.7604	0.7585	0.7526	0.7505	0.7451	0.7586	-0.0031	0.0031	0.0045	0.0063	0.0116	0.0021
0.7522	0.7576	0.7529	0.7382	0.7579	0.7578	0.0054	0.0032	0.0056	0.0036	-0.0001	-0.0004
AVERAGE = 0.7507						AVERAGE = 0.0053					
(6) Inlet velocity for windmill operation: nominal $X/R_t = 0.33; A_T = 344.24 \text{ m/s (1129.4 ft/s); } \beta_{3/4} = 60.9^\circ$.											
AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.210 \quad X/R_t = 0.33$ POINT NUMBER = 1											
0.6514	0.6452	0.6460	0.6461	0.6417	0.6448	0.1635	0.1572	0.1591	0.1567	0.1584	0.1567
0.6488	0.6441	0.6394	0.6530	0.6449	0.6480	0.1563	0.1631	0.1523	0.1574	0.1577	0.1580
0.6566	0.6483	0.6471	0.6518	0.6477	0.6543	0.1573	0.1533	0.1536	0.1587	0.1522	0.1604
0.6496	0.6496	0.6542	0.6456	0.6463	0.6489	0.1588	0.1587	0.1548	0.1606	0.1600	0.1571
0.6533	0.6407	0.6526	0.6495	0.6514	0.6493	0.1387	0.1495	0.1590	0.1596	0.1488	0.1691
AVERAGE = 0.6481						AVERAGE = 0.1568					
$R/R_t = 0.250 \quad X/R_t = 0.33$ POINT NUMBER = 2											
0.6547	0.6505	0.6500	0.6525	0.6517	0.6517	0.1203	0.1185	0.1142	0.1165	0.1199	0.1159
0.6537	0.6557	0.6522	0.6532	0.6445	0.6519	0.1253	0.1129	0.1230	0.1110	0.1179	0.1143
0.6507	0.6550	0.6571	0.6529	0.6533	0.6528	0.1093	0.1186	0.1189	0.1217	0.1138	0.1131
0.6498	0.6566	0.6519	0.6588	0.6531	0.6527	0.1137	0.1204	0.1157	0.1170	0.1191	0.1160
0.6548	0.6518	0.6519	0.6545	0.6524	0.6543	0.1163	0.1192	0.1160	0.1173	0.1202	0.1179
AVERAGE = 0.6530						AVERAGE = 0.1170					
$R/R_t = 0.300 \quad X/R_t = 0.33$ POINT NUMBER = 3											
0.6673	0.6658	0.6708	0.6633	0.6639	0.6681	0.0950	0.0993	0.0991	0.0995	0.0990	0.0979
0.6650	0.6673	0.6660	0.6696	0.6679	0.6659	0.0959	0.0993	0.1004	0.0964	0.0931	0.1010
0.6588	0.6655	0.6613	0.6687	0.6651	0.6673	0.1005	0.1019	0.0965	0.0975	0.0989	0.0967
0.6639	0.6653	0.6617	0.6686	0.6661	0.6597	0.1010	0.0982	0.0948	0.0950	0.0959	0.0987
0.6655	0.6608	0.6667	0.6672	0.6662	0.6640	0.0985	0.0965	0.0993	0.0944	0.0944	0.1008
AVERAGE = 0.6668						AVERAGE = 0.0981					
$R/R_t = 0.340 \quad X/R_t = 0.33$ POINT NUMBER = 4											
0.6704	0.6687	0.6707	0.6744	0.6679	0.6743	0.0823	0.0849	0.0837	0.0829	0.0869	0.0826
0.6745	0.6743	0.6729	0.6712	0.6757	0.6720	0.0871	0.0826	0.0885	0.0882	0.0799	0.0869
0.6727	0.6735	0.6704	0.6738	0.6751	0.6744	0.0850	0.0843	0.0891	0.0800	0.0830	0.0831
0.6766	0.6747	0.6733	0.6685	0.6679	0.6693	0.0809	0.0826	0.0817	0.0869	0.0846	0.0894
0.6712	0.6709	0.6707	0.6705	0.6713	0.6673	0.0877	0.0862	0.0877	0.0830	0.0835	0.0849
AVERAGE = 0.6722						AVERAGE = 0.0851					

TABLE V. - Continued.

(6) Continued.

AXIAL VELOCITY										RADIAL VELOCITY					
$R/R_t = 0.380 \quad X/R_t = 0.33$ POINT NUMBER = 5										0.0730	0.0749	0.0749	0.0745	0.0736	0.0734
0.6759	0.6744	0.6766	0.6780	0.6739	0.6819	0.0751	0.0751	0.0775	0.0739	0.0740	0.0759	0.0749			
0.6803	0.6784	0.6822	0.6795	0.6790	0.6751	0.0752	0.0752	0.0792	0.0737	0.0731	0.0775	0.0771			
0.6775	0.6709	0.6794	0.6804	0.6806	0.6735	0.0770	0.0770	0.0757	0.0698	0.0774	0.0719	0.0707			
0.6774	0.6786	0.6823	0.6721	0.6794	0.6763	0.0753	0.0753	0.0733	0.0751	0.0760	0.0758	0.0755			
0.6763	0.6781	0.6742	0.6737	0.6739	0.6766	AVERAGE = 0.6775		AVERAGE = 0.0752							
$R/R_t = 0.420 \quad X/R_t = 0.33$ POINT NUMBER = 6										0.0702	0.0668	0.0699	0.0681	0.0700	0.0699
0.6787	0.6842	0.6840	0.6837	0.6823	0.6806	0.0653	0.0653	0.0708	0.0658	0.0691	0.0695	0.0705			
0.6847	0.6817	0.6859	0.6833	0.6846	0.6853	0.0690	0.0690	0.0675	0.0642	0.0666	0.0708	0.0677			
0.6844	0.6841	0.6866	0.6880	0.6823	0.6794	0.0693	0.0693	0.0715	0.0696	0.0697	0.0671	0.0715			
0.6834	0.6804	0.6821	0.6818	0.6846	0.6781	0.0676	0.0676	0.0712	0.0655	0.0696	0.0720	0.0698			
0.6812	0.6797	0.6851	0.6805	0.6793	0.6769	AVERAGE = 0.6837		AVERAGE = 0.0686							
$R/R_t = 0.460 \quad X/R_t = 0.33$ POINT NUMBER = 8										0.0663	0.0608	0.0630	0.0632	0.0626	0.0627
0.6826	0.6898	0.6861	0.6886	0.6916	0.6884	0.0626	0.0626	0.0622	0.0600	0.0615	0.0654	0.0604			
0.6853	0.6896	0.6916	0.6913	0.6916	0.6917	0.0608	0.0608	0.0634	0.0638	0.0594	0.0634	0.0649			
0.6939	0.6902	0.6913	0.6959	0.6914	0.6866	0.0636	0.0636	0.0632	0.0643	0.0638	0.0622	0.0641			
0.6876	0.6853	0.6853	0.6855	0.6895	0.6856	0.0634	0.0634	0.0621	0.0637	0.0668	0.0617	0.0618			
0.6847	0.6886	0.6842	0.6835	0.6857	0.6906	AVERAGE = 0.6889		AVERAGE = 0.0627							
$R/R_t = 0.510 \quad X/R_t = 0.33$ POINT NUMBER = 9										0.0559	0.0599	0.0555	0.0540	0.0572	0.0561
0.6975	0.6949	0.6987	0.6944	0.6986	0.6984	0.0553	0.0553	0.0545	0.0558	0.0558	0.0589	0.0568			
0.6993	0.6975	0.7004	0.6991	0.6996	0.7003	0.0567	0.0567	0.0590	0.0589	0.0534	0.0548	0.0568			
0.7018	0.6970	0.6965	0.6998	0.6984	0.7011	0.0591	0.0591	0.0554	0.0557	0.0569	0.0556	0.0540			
0.6970	0.6972	0.6976	0.6950	0.6981	0.6982	0.0579	0.0579	0.0546	0.0552	0.0600	0.0580	0.0561			
0.6942	0.6944	0.6987	0.6904	0.6916	0.6951	AVERAGE = 0.6978		AVERAGE = 0.0561							
$R/R_t = 0.550 \quad X/R_t = 0.33$ POINT NUMBER = 10										0.0523	0.0523	0.0527	0.0526	0.0516	0.0529
0.7028	0.6992	0.7018	0.7013	0.7029	0.7047	0.0545	0.0545	0.0525	0.0572	0.0515	0.0536	0.0536			
0.7004	0.7029	0.6996	0.7091	0.7058	0.7043	0.0517	0.0517	0.0555	0.0513	0.0539	0.0573	0.0535			
0.7072	0.7059	0.7061	0.7007	0.7013	0.7021	0.0552	0.0552	0.0581	0.0553	0.0568	0.0574	0.0595			
0.7043	0.6993	0.7008	0.6980	0.6961	0.6922	0.0530	0.0530	0.0545	0.0541	0.0570	0.0541	0.0551			
0.7006	0.6976	0.7020	0.6969	0.6969	0.6957	AVERAGE = 0.7013		AVERAGE = 0.0543							
$R/R_t = 0.590 \quad X/R_t = 0.33$ POINT NUMBER = 11										0.0498	0.0518	0.0508	0.0494	0.0520	0.0482
0.7099	0.7061	0.7059	0.7064	0.7086	0.7117	0.0529	0.0529	0.0511	0.0474	0.0489	0.0487	0.0471			
0.7053	0.7086	0.7100	0.7083	0.7140	0.7098	0.0493	0.0493	0.0489	0.0503	0.0483	0.0468	0.0541			
0.7122	0.7129	0.7137	0.7118	0.7142	0.7057	0.0522	0.0522	0.0491	0.0505	0.0530	0.0510	0.0509			
0.7065	0.7112	0.7099	0.7059	0.7076	0.7073	0.0475	0.0475	0.0547	0.0513	0.0526	0.0509	0.0522			
0.7095	0.7053	0.7036	0.7064	0.7082	0.7033	AVERAGE = 0.7089		AVERAGE = 0.0502							
$R/R_t = 0.640 \quad X/R_t = 0.33$ POINT NUMBER = 12										0.0490	0.0484	0.0500	0.0480	0.0467	0.0481
0.7089	0.7129	0.7114	0.7096	0.7111	0.7132	0.0472	0.0472	0.0498	0.0503	0.0449	0.0462	0.0484			
0.7134	0.7109	0.7169	0.7140	0.7148	0.7105	0.0466	0.0466	0.0444	0.0425	0.0494	0.0472	0.0457			
0.7135	0.7202	0.7179	0.7131	0.7134	0.7164	0.0458	0.0458	0.0483	0.0469	0.0497	0.0469	0.0460			
0.7177	0.7127	0.7167	0.7110	0.7143	0.7156	0.0468	0.0468	0.0513	0.0462	0.0489	0.0472	0.0484			
0.7125	0.7075	0.7141	0.7088	0.7096	0.7120	AVERAGE = 0.7131		AVERAGE = 0.0475							
$R/R_t = 0.680 \quad X/R_t = 0.33$ POINT NUMBER = 13										0.0475	0.0425	0.0468	0.0485	0.0482	0.0441
0.7111	0.7179	0.7114	0.7131	0.7107	0.7206	0.0431	0.0431	0.0459	0.0486	0.0462	0.0440	0.0452			
0.7141	0.7154	0.7146	0.7157	0.7129	0.7166	0.0437	0.0437	0.0443	0.0419	0.0452	0.0447	0.0466			
0.7203	0.7181	0.7213	0.7179	0.7174	0.7175	0.0427	0.0427	0.0461	0.0439	0.0471	0.0450	0.0460			
0.7183	0.7159	0.7165	0.7142	0.7152	0.7126	0.0474	0.0474	0.0500	0.0465	0.0470	0.0486	0.0470			
0.7131	0.7096	0.7159	0.7129	0.7135	0.7140	AVERAGE = 0.7153		AVERAGE = 0.0458							

TABLE V. - Continued.

(6) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.720 \quad X/R_t = 0.33$ POINT NUMBER = 14											
0.7148	0.7162	0.7191	0.7183	0.7208	0.7198	0.0438	0.0419	0.0413	0.0418	0.0421	0.0414
0.7197	0.7160	0.7230	0.7185	0.7168	0.7202	0.0423	0.0429	0.0434	0.0421	0.0422	0.0406
0.7226	0.7218	0.7235	0.7257	0.7211	0.7204	0.0393	0.0419	0.0409	0.0418	0.0434	0.0420
0.7198	0.7195	0.7219	0.7196	0.7185	0.7177	0.0427	0.0425	0.0411	0.0413	0.0420	0.0426
0.7194	0.7167	0.7168	0.7152	0.7171	0.7169	0.0424	0.0434	0.0443	0.0426	0.0468	0.0446
AVERAGE = 0.7192						AVERAGE = 0.0423					
$R/R_t = 0.770 \quad X/R_t = 0.33$ POINT NUMBER = 15											
0.7236	0.7194	0.7230	0.7227	0.7199	0.7196	0.0419	0.0431	0.0413	0.0417	0.0428	0.0424
0.7225	0.7230	0.7224	0.7207	0.7192	0.7221	0.0418	0.0439	0.0402	0.0430	0.0425	0.0419
0.7214	0.7199	0.7214	0.7226	0.7224	0.7200	0.0403	0.0432	0.0421	0.0413	0.0406	0.0452
0.7246	0.7206	0.7225	0.7211	0.7219	0.7228	0.0401	0.0395	0.0424	0.0407	0.0391	0.0406
0.7222	0.7241	0.7193	0.7217	0.7246	0.7217	0.0413	0.0406	0.0406	0.0413	0.0418	0.0398
AVERAGE = 0.7219						AVERAGE = 0.0416					
$R/R_t = 0.810 \quad X/R_t = 0.33$ POINT NUMBER = 16											
0.7233	0.7251	0.7259	0.7237	0.7255	0.7225	0.0390	0.0406	0.0406	0.0421	0.0396	0.0402
0.7216	0.7226	0.7241	0.7280	0.7257	0.7221	0.0408	0.0410	0.0415	0.0398	0.0410	0.0398
0.7256	0.7254	0.7251	0.7262	0.7260	0.7247	0.0390	0.0392	0.0390	0.0380	0.0386	0.0406
0.7233	0.7276	0.7241	0.7284	0.7238	0.7256	0.0420	0.0368	0.0398	0.0388	0.0404	0.0381
0.7236	0.7278	0.7258	0.7238	0.7238	0.7242	0.0398	0.0391	0.0392	0.0416	0.0400	0.0382
AVERAGE = 0.7253						AVERAGE = 0.0395					
$R/R_t = 0.860 \quad X/R_t = 0.33$ POINT NUMBER = 17											
0.7256	0.7245	0.7261	0.7253	0.7280	0.7261	0.0385	0.0383	0.0388	0.0394	0.0378	0.0388
0.7287	0.7273	0.7256	0.7263	0.7247	0.7286	0.0402	0.0378	0.0425	0.0404	0.0385	0.0388
0.7272	0.7268	0.7265	0.7257	0.7279	0.7283	0.0401	0.0399	0.0404	0.0369	0.0390	0.0388
0.7260	0.7278	0.7285	0.7249	0.7271	0.7242	0.0395	0.0393	0.0383	0.0398	0.0381	0.0392
0.7258	0.7279	0.7285	0.7296	0.7266	0.7290	0.0396	0.0380	0.0390	0.0393	0.0414	0.0376
AVERAGE = 0.7281						AVERAGE = 0.0389					
$R/R_t = 0.900 \quad X/R_t = 0.33$ POINT NUMBER = 18											
0.7284	0.7308	0.7266	0.7291	0.7289	0.7307	0.0383	0.0385	0.0389	0.0398	0.0397	0.0384
0.7291	0.7297	0.7307	0.7347	0.7294	0.7295	0.0391	0.0386	0.0363	0.0380	0.0377	0.0381
0.7326	0.7298	0.7292	0.7325	0.7299	0.7330	0.0375	0.0372	0.0398	0.0377	0.0390	0.0379
0.7276	0.7299	0.7314	0.7298	0.7331	0.7290	0.0414	0.0385	0.0370	0.0408	0.0362	0.0381
0.7301	0.7322	0.7289	0.7312	0.7282	0.7282	0.0375	0.0384	0.0383	0.0386	0.0401	0.0387
AVERAGE = 0.7307						AVERAGE = 0.0382					
$R/R_t = 0.900 \quad X/R_t = 0.33$ POINT NUMBER = 19											
0.7295	0.7290	0.7299	0.7284	0.7275	0.7330	0.0387	0.0381	0.0375	0.0377	0.0399	0.0374
0.7307	0.7286	0.7318	0.7323	0.7291	0.7288	0.0373	0.0380	0.0367	0.0348	0.0377	0.0386
0.7320	0.7271	0.7292	0.7298	0.7284	0.7284	0.0366	0.0403	0.0413	0.0401	0.0391	0.0394
0.7280	0.7324	0.7322	0.7347	0.7326	0.7296	0.0391	0.0355	0.0370	0.0377	0.0359	0.0410
0.7288	0.7307	0.7304	0.7300	0.7304	0.7291	0.0383	0.0362	0.0396	0.0383	0.0369	0.0375
AVERAGE = 0.7302						AVERAGE = 0.0384					
$R/R_t = 0.950 \quad X/R_t = 0.33$ POINT NUMBER = 20											
0.7335	0.7314	0.7311	0.7306	0.7318	0.7296	0.0354	0.0402	0.0385	0.0375	0.0373	0.0374
0.7292	0.7328	0.7330	0.7354	0.7307	0.7304	0.0400	0.0394	0.0405	0.0336	0.0391	0.0386
0.7303	0.7284	0.7315	0.7351	0.7283	0.7352	0.0373	0.0380	0.0376	0.0386	0.0384	0.0365
0.7298	0.7369	0.7348	0.7340	0.7320	0.7315	0.0393	0.0376	0.0368	0.0374	0.0382	0.0388
0.7333	0.7330	0.7338	0.7321	0.7307	0.7315	0.0362	0.0399	0.0359	0.0369	0.0386	0.0392
AVERAGE = 0.7321						AVERAGE = 0.0379					
$R/R_t = 0.990 \quad X/R_t = 0.33$ POINT NUMBER = 21											
0.7332	0.7342	0.7314	0.7338	0.7307	0.7357	0.0392	0.0399	0.0376	0.0377	0.0403	0.0398
0.7338	0.7338	0.7338	0.7323	0.7331	0.7332	0.0390	0.0385	0.0383	0.0401	0.0398	0.0348
0.7374	0.7331	0.7332	0.7350	0.7364	0.7328	0.0350	0.0381	0.0373	0.0372	0.0373	0.0394
0.7325	0.7332	0.7315	0.7357	0.7330	0.7307	0.0378	0.0388	0.0380	0.0370	0.0392	0.0384
0.7321	0.7347	0.7340	0.7331	0.7343	0.7328	0.0389	0.0367	0.0409	0.0385	0.0409	0.0379
AVERAGE = 0.7335						AVERAGE = 0.0384					

TABLE V. - Continued.

(6) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.040 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 22											
0.7353	0.7365	0.7348	0.7332	0.7355	0.7356	0.0360	0.0381	0.0389	0.0395	0.0390	0.0370
0.7374	0.7315	0.7337	0.7380	0.7325	0.7348	0.0392	0.0369	0.0388	0.0370	0.0374	0.0384
0.7334	0.7334	0.7366	0.7345	0.7351	0.7369	0.0389	0.0379	0.0377	0.0375	0.0357	0.0386
0.7356	0.7345	0.7349	0.7350	0.7339	0.7346	0.0380	0.0375	0.0333	0.0400	0.0370	0.0358
0.7318	0.7336	0.7394	0.7335	0.7345	0.7343	0.0395	0.0368	0.0372	0.0362	0.0375	0.0361
AVERAGE	= 0.7348					AVERAGE	= 0.0376				
$R/R_t = 1.080 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 23											
0.7367	0.7369	0.7348	0.7351	0.7367	0.7354	0.0383	0.0381	0.0358	0.0352	0.0350	0.0371
0.7371	0.7368	0.7386	0.7360	0.7389	0.7350	0.0411	0.0408	0.0392	0.0352	0.0352	0.0356
0.7332	0.7363	0.7346	0.7348	0.7369	0.7364	0.0375	0.0345	0.0376	0.0356	0.0363	0.0378
0.7363	0.7381	0.7375	0.7381	0.7358	0.7361	0.0347	0.0368	0.0401	0.0372	0.0384	0.0388
0.7372	0.7393	0.7361	0.7381	0.7407	0.7345	0.0360	0.0381	0.0344	0.0352	0.0348	0.0422
AVERAGE	= 0.7366					AVERAGE	= 0.0370				
$R/R_t = 1.130 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 24											
0.7391	0.7358	0.7379	0.7400	0.7370	0.7343	0.0352	0.0373	0.0363	0.0349	0.0378	0.0404
0.7409	0.7379	0.7365	0.7354	0.7401	0.7382	0.0369	0.0362	0.0353	0.0353	0.0337	0.0368
0.7356	0.7364	0.7380	0.7362	0.7384	0.7366	0.0388	0.0351	0.0373	0.0394	0.0367	0.0352
0.7386	0.7393	0.7381	0.7411	0.7385	0.7386	0.0346	0.0372	0.0339	0.0390	0.0395	0.0394
0.7360	0.7387	0.7376	0.7380	0.7367	0.7393	0.0394	0.0368	0.0363	0.0375	0.0337	0.0380
AVERAGE	= 0.7380					AVERAGE	= 0.0371				
$R/R_t = 1.180 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 25											
0.7418	0.7382	0.7385	0.7406	0.7388	0.7406	0.0374	0.0350	0.0394	0.0353	0.0372	0.0367
0.7413	0.7390	0.7408	0.7398	0.7367	0.7391	0.0383	0.0379	0.0362	0.0375	0.0356	0.0372
0.7387	0.7380	0.7389	0.7404	0.7392	0.7407	0.0366	0.0352	0.0374	0.0375	0.0366	0.0359
0.7405	0.7415	0.7404	0.7407	0.7412	0.7404	0.0372	0.0344	0.0350	0.0352	0.0379	0.0365
0.7397	0.7404	0.7396	0.7375	0.7401	0.7392	0.0350	0.0378	0.0364	0.0363	0.0406	0.0362
AVERAGE	= 0.7397					AVERAGE	= 0.0367				
$R/R_t = 1.130 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 26											
0.7398	0.7398	0.7408	0.7381	0.7393	0.7372	0.0367	0.0344	0.0360	0.0356	0.0367	0.0374
0.7384	0.7395	0.7360	0.7430	0.7414	0.7415	0.0355	0.0363	0.0352	0.0370	0.0352	0.0370
0.7402	0.7401	0.7412	0.7379	0.7407	0.7390	0.0367	0.0374	0.0357	0.0368	0.0354	0.0342
0.7392	0.7379	0.7424	0.7400	0.7437	0.7405	0.0378	0.0343	0.0379	0.0373	0.0361	0.0354
0.7393	0.7399	0.7379	0.7388	0.7385	0.7400	0.0373	0.0379	0.0357	0.0378	0.0389	0.0372
AVERAGE	= 0.7400					AVERAGE	= 0.0367				
$R/R_t = 1.270 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 27											
0.7379	0.7394	0.7389	0.7384	0.7380	0.7386	0.0351	0.0371	0.0360	0.0355	0.0365	0.0349
0.7376	0.7385	0.7398	0.7393	0.7414	0.7407	0.0352	0.0344	0.0371	0.0348	0.0350	0.0356
0.7399	0.7434	0.7424	0.7394	0.7426	0.7417	0.0357	0.0352	0.0347	0.0347	0.0376	0.0343
0.7419	0.7414	0.7390	0.7415	0.7398	0.7392	0.0348	0.0372	0.0381	0.0373	0.0362	0.0360
0.7420	0.7407	0.7415	0.7384	0.7373	0.7382	0.0367	0.0369	0.0359	0.0372	0.0374	0.0368
AVERAGE	= 0.7404					AVERAGE	= 0.0357				
$R/R_t = 1.320 \quad X/R_t = 0.33 \quad$ POINT NUMBER = 28											
0.7389	0.7384	0.7397	0.7416	0.7390	0.7433	0.0375	0.0376	0.0355	0.0352	0.0365	0.0372
0.7407	0.7421	0.7415	0.7400	0.7405	0.7423	0.0362	0.0360	0.0342	0.0332	0.0337	0.0343
0.7400	0.7403	0.7400	0.7400	0.7427	0.7412	0.0344	0.0360	0.0375	0.0354	0.0356	0.0349
0.7407	0.7421	0.7413	0.7412	0.7449	0.7430	0.0374	0.0347	0.0360	0.0354	0.0374	0.0363
0.7431	0.7438	0.7413	0.7422	0.7406	0.7408	0.0370	0.0365	0.0366	0.0359	0.0339	0.0377
AVERAGE	= 0.7418					AVERAGE	= 0.0366				

TABLE V. - Continued

(7) Exit velocity for windmill operation: nominal $X/R_t = 0.86$; $A_T = 338.94 \text{ m/s}$ (1112.0 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.560 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 1$											
0.7470	0.7560	0.7562	0.7526	0.7488	0.7659	0.0147	0.0098	0.0100	0.0177	0.0180	0.0051
0.7510	0.7651	0.7549	0.7620	0.7567	0.7554	0.0156	0.0040	0.0103	0.0124	0.0067	0.0133
0.7594	0.7510	0.7576	0.7528	0.7545	0.7634	0.0066	0.0138	0.0085	0.0103	0.0127	-0.0094
0.7588	0.7445	0.7578	0.7484	0.7687	0.7554	0.0099	0.0176	0.0084	0.0148	-0.0022	0.0035
0.7719	0.7514	0.7477	0.7570	0.7553	0.7588	-0.0022	0.0206	0.0171	0.0053	0.0150	0.0099
AVERAGE = 0.7558						AVERAGE = 0.0102					
$R/R_t = 1.478 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 2$											
0.7607	0.7641	0.7682	0.7659	0.7664	0.7568	0.0074	0.0063	-0.0008	0.0016	-0.0017	0.0013
0.7617	0.7685	0.7684	0.7616	0.7675	0.7679	0.0125	0.0014	-0.0015	0.0045	-0.0017	-0.0019
0.7659	0.7636	0.7529	0.7586	0.7653	0.7736	0.0022	0.0047	0.0094	0.0032	-0.0007	0.0060
0.7633	0.7774	0.7634	0.7735	0.7715	0.7689	0.0070	-0.0000	-0.0075	-0.0015	-0.0012	-0.0032
0.7667	0.7585	0.7649	0.7698	0.7576	0.7665	-0.0013	0.0001	0.0008	-0.0022	0.0136	-0.0005
AVERAGE = 0.7653						AVERAGE = 0.0021					
$R/R_t = 1.560 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 3$											
0.7608	0.7635	0.7671	0.7651	0.7541	0.7692	-0.0024	-0.0002	-0.0019	0.0025	0.0118	-0.0033
0.7579	0.7605	0.7483	0.7593	0.7504	0.7540	0.0008	0.0061	0.0138	0.0056	0.0133	0.0071
0.7694	0.7648	0.7627	0.7661	0.7580	0.7634	0.0024	0.0040	-0.0011	-0.0017	0.0113	0.0042
0.7603	0.7627	0.7618	0.7579	0.7667	0.7674	0.0054	0.0059	0.0067	0.0063	-0.0055	-0.0027
0.7645	0.7551	0.7638	0.7619	0.7487	0.7649	0.0004	0.0057	0.0012	0.0002	0.0138	-0.0042
AVERAGE = 0.7608						AVERAGE = 0.0036					
$R/R_t = 1.402 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 4$											
0.7662	0.7615	0.7568	0.7615	0.7684	0.7626	-0.0050	0.0012	0.0129	0.0075	0.0004	0.0041
0.7642	0.7629	0.7617	0.7636	0.7712	0.7684	-0.0000	0.0051	0.0121	0.0009	0.0028	-0.0003
0.7523	0.7683	0.7675	0.7529	0.7692	0.7690	0.0139	0.0060	-0.0035	0.0134	0.0012	0.0029
0.7782	0.7717	0.7749	0.7722	0.7651	0.7679	-0.0004	-0.0027	0.0069	-0.0013	-0.0028	0.0013
0.7680	0.7707	0.7628	0.7648	0.7607	0.7639	-0.0015	0.0081	0.0009	0.0049	-0.0025	0.0001
AVERAGE = 0.7655						AVERAGE = 0.0031					
$R/R_t = 1.363 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 5$											
0.7723	0.7616	0.7661	0.7689	0.7598	0.7626	0.0068	-0.0025	-0.0023	0.0032	-0.0103	-0.0033
0.7674	0.7718	0.7708	0.7693	0.7719	0.7746	0.0017	0.0059	0.0010	0.0013	0.0012	0.0058
0.7712	0.7644	0.7730	0.7628	0.7684	0.7654	0.0008	0.0020	0.0038	-0.0009	0.0004	0.0031
0.7608	0.7664	0.7677	0.7690	0.7701	0.7657	0.0049	-0.0011	-0.0022	0.0089	0.0019	0.0032
0.7637	0.7709	0.7695	0.7587	0.7665	0.7726	0.0058	-0.0009	0.0006	0.0031	0.0016	0.0039
AVERAGE = 0.7674						AVERAGE = 0.0018					
$R/R_t = 1.363 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 6$											
0.7667	0.7673	0.7569	0.7736	0.7692	0.7633	0.0040	-0.0019	0.0016	0.0041	0.0035	-0.0020
0.7677	0.7657	0.7691	0.7697	0.7670	0.7654	0.0016	0.0031	0.0039	0.0041	0.0087	0.0023
0.7746	0.7706	0.7683	0.7675	0.7711	0.7712	0.0052	0.0047	0.0019	-0.0042	0.0008	0.0004
0.7734	0.7710	0.7717	0.7724	0.7692	0.7692	-0.0000	-0.0000	0.0069	-0.0003	0.0076	-0.0031
0.7653	0.7656	0.7677	0.7666	0.7642	0.7780	-0.0004	0.0067	0.0014	-0.0017	-0.0009	0.0061
AVERAGE = 0.7686						AVERAGE = 0.0022					
$R/R_t = 1.322 \quad X/R_t = 0.85 \quad \text{POINT NUMBER} = 7$											
0.7670	0.7718	0.7720	0.7733	0.7719	0.7674	0.0007	0.0046	0.0110	0.0036	0.0002	-0.0007
0.7758	0.7654	0.7701	0.7651	0.7658	0.7674	0.0057	-0.0023	-0.0001	0.0008	0.0072	-0.0019
0.7667	0.7721	0.7726	0.7680	0.7697	0.7674	0.0004	0.0033	-0.0011	0.0036	0.0005	-0.0016
0.7702	0.7646	0.7738	0.7735	0.7653	0.7678	-0.0011	0.0032	-0.0021	-0.0012	-0.0019	-0.0040
0.7635	0.7612	0.7662	0.7603	0.7695	0.7620	0.0019	0.0058	0.0031	0.0104	0.0019	-0.0053
AVERAGE = 0.7679						AVERAGE = 0.0017					
$R/R_t = 1.284 \quad X/R_t = 0.86 \quad \text{POINT NUMBER} = 8$											
0.7673	0.7649	0.7661	0.7701	0.7689	0.7652	0.0047	0.0028	0.0043	0.0022	0.0010	-0.0007
0.7699	0.7705	0.7689	0.7703	0.7706	0.7727	-0.0007	0.0019	0.0140	0.0007	0.0015	0.0011
0.7697	0.7670	0.7738	0.7727	0.7681	0.7631	0.0051	0.0034	0.0036	0.0024	0.0011	-0.0081
0.7723	0.7735	0.7425	0.7673	0.7709	0.7688	0.0022	0.0038	0.0283	0.0012	0.0020	-0.0007
0.7668	0.7660	0.7691	0.7656	0.7657	0.7623	-0.0056	0.0032	0.0021	0.0079	0.0016	0.0065
AVERAGE = 0.7680						AVERAGE = 0.0031					

TABLE V. - Continued.

(7) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.244 \quad X/R_t = 0.86$ POINT NUMBER = 9											
0.7731	0.7647	0.7687	0.7719	0.7663	0.7680	-0.0000	0.0018	-0.0005	0.0035	0.0042	0.0057
0.7694	0.7744	0.7690	0.7690	0.7693	0.7608	0.0065	0.0051	0.0049	0.0052	0.0097	0.0085
0.7703	0.7755	0.7707	0.7761	0.7655	0.7692	0.0058	0.0031	0.0043	0.0013	0.0135	-0.0043
0.7743	0.7607	0.7660	0.7694	0.7691	0.7677	0.0050	-0.0020	0.0116	0.0029	-0.0009	0.0104
0.7719	0.7665	0.7718	0.7665	0.7626	0.7717	0.0019	-0.0018	0.0004	-0.0007	0.0132	0.0026
AVERAGE = 0.7691						AVERAGE = 0.0036					
$R/R_t = 1.204 \quad X/R_t = 0.86$ POINT NUMBER = 10											
0.7647	0.7648	0.7662	0.7747	0.7712	0.7713	-0.0066	0.0037	0.0079	0.0069	0.0031	0.0041
0.7789	0.7719	0.7681	0.7707	0.7743	0.7709	0.0062	0.0068	0.0060	-0.0007	0.0040	0.0114
0.7740	0.7710	0.7817	0.7760	0.7723	0.7653	0.0051	0.0097	0.0002	0.0004	-0.0000	0.0029
0.7632	0.7718	0.7645	0.7612	0.7728	0.7679	0.0117	0.0009	0.0032	0.0084	0.0077	0.0011
0.7654	0.7718	0.7609	0.7670	0.7726	0.7673	-0.0000	0.0040	0.0060	0.0049	0.0067	-0.0004
AVERAGE = 0.7701						AVERAGE = 0.0038					
$R/R_t = 1.164 \quad X/R_t = 0.86$ POINT NUMBER = 11											
0.7664	0.7685	0.7655	0.7681	0.7760	0.7734	0.0099	-0.0014	0.0098	0.0021	0.0112	0.0154
0.7679	0.7717	0.7816	0.7663	0.7814	0.7754	0.0060	0.0058	0.0080	-0.0046	0.0097	0.0087
0.7775	0.7716	0.7804	0.7802	0.7708	0.7760	0.0012	0.0038	0.0022	0.0070	0.0031	0.0025
0.7745	0.7719	0.7750	0.7668	0.7692	0.7702	0.0019	0.0094	0.0042	-0.0045	0.0002	0.0044
0.7692	0.7678	0.7731	0.7690	0.7800	0.7701	-0.0027	0.0040	0.0085	0.0113	0.0090	-0.0010
AVERAGE = 0.7727						AVERAGE = 0.0045					
$R/R_t = 1.124 \quad X/R_t = 0.86$ POINT NUMBER = 12											
0.7689	0.7728	0.7761	0.7754	0.7668	0.7798	-0.0004	0.0015	0.0067	0.0091	0.0052	0.0060
0.7817	0.7719	0.7628	0.7752	0.7753	0.7797	0.0076	0.0088	0.0073	0.0163	0.0007	0.0056
0.7760	0.7600	0.7798	0.7766	0.7713	0.7621	0.0025	0.0256	0.0045	-0.0022	0.0023	0.0098
0.7776	0.7772	0.7683	0.7745	0.7767	0.7703	0.0056	0.0033	0.0031	0.0037	0.0031	0.0013
0.7672	0.7719	0.7757	0.7595	0.7799	0.7820	0.0059	0.0079	0.0120	0.0018	0.0103	0.0167
AVERAGE = 0.7726						AVERAGE = 0.0067					
$R/R_t = 1.083 \quad X/R_t = 0.86$ POINT NUMBER = 13											
0.7684	0.7727	0.7713	0.7757	0.7729	0.7846	0.0097	0.0059	0.0030	0.0121	0.0027	0.0130
0.7790	0.7790	0.7862	0.7933	0.7845	0.7763	0.0004	0.0056	0.0088	0.0174	0.0083	-0.0076
0.7835	0.7844	0.7815	0.7814	0.7812	0.7763	0.0085	0.0132	0.0082	0.0029	0.0042	0.0090
0.7707	0.7740	0.7684	0.7757	0.7759	0.7731	0.0089	0.0035	-0.0003	0.0050	0.0025	0.0023
0.7721	0.7766	0.7729	0.7710	0.7833	0.7719	0.0093	0.0034	0.0057	0.0091	0.0093	0.0032
AVERAGE = 0.7768						AVERAGE = 0.0061					
$R/R_t = 1.041 \quad X/R_t = 0.86$ POINT NUMBER = 14											
0.7675	0.7758	0.7650	0.7756	0.7767	0.7776	-0.0036	0.0041	0.0123	0.0085	0.0066	0.0070
0.7766	0.7720	0.7814	0.7789	0.7898	0.7901	0.0085	0.0117	0.0084	0.0115	0.0095	0.0174
0.7669	0.7139	0.7606	0.7682	0.7748	0.7638	0.0804	0.0162	-0.0123	-0.0010	-0.0004	0.0105
0.7731	0.7748	0.7701	0.7744	0.7739	0.7736	-0.0015	0.0017	0.0077	-0.0011	0.0037	0.0002
0.7692	0.7638	0.7693	0.7796	0.7682	0.7671	0.0048	0.0044	-0.0028	0.0055	0.0006	0.0103
AVERAGE = 0.7692						AVERAGE = 0.0084					
$R/R_t = 0.998 \quad X/R_t = 0.86$ POINT NUMBER = 15											
0.7794	0.7778	0.7841	0.7692	0.7781	0.7737	0.0097	0.0029	0.0089	-0.0023	0.0025	-0.0006
0.7706	0.7731	0.7810	0.7841	0.7889	0.7969	0.0160	0.0036	0.0108	0.0102	0.0056	0.0078
0.7644	0.7450	0.7906	0.7788	0.7774	0.7661	0.0159	0.0136	-0.0024	-0.0058	0.0021	0.0091
0.7723	0.7719	0.7805	0.7789	0.7755	0.7808	0.0057	-0.0022	0.0019	0.0041	0.0024	0.0066
0.7827	0.7765	0.7804	0.7679	0.7796	0.7773	0.0103	0.0005	0.0102	-0.0002	0.0077	0.0040
AVERAGE = 0.7772						AVERAGE = 0.0054					
$R/R_t = 0.960 \quad X/R_t = 0.87$ POINT NUMBER = 16											
0.7700	0.7777	0.7757	0.7762	0.7753	0.7795	0.0068	-0.0007	0.0001	-0.0027	-0.0003	-0.0000
0.7737	0.7837	0.7766	0.7810	0.7840	0.7810	0.0066	0.0023	-0.0059	0.0013	-0.0064	-0.0115
0.7674	0.7630	0.7785	0.7783	0.7735	0.7770	-0.0203	0.0097	-0.0018	-0.0040	0.0058	0.0028
0.7823	0.7893	0.7814	0.7723	0.7722	0.7804	0.0019	0.0071	0.0001	0.0059	-0.0007	0.0020
0.7767	0.7789	0.7768	0.7738	0.7713	0.7801	0.0009	0.0039	0.0004	0.0004	0.0027	0.0012
AVERAGE = 0.7764						AVERAGE = -0.0006					

TABLE V. - Continued.

(7) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.920 \quad X/R_t = 0.87$ POINT NUMBER = 17											
0.7771	0.7825	0.7765	0.7776	0.7817	0.7844	0.0020	0.0015	0.0006	0.0149	0.0036	-0.0022
0.7795	0.7778	0.7753	0.7773	0.7719	0.7701	-0.0008	-0.0038	-0.0052	-0.0065	-0.0032	-0.0195
0.7544	0.7643	0.7857	0.7775	0.7826	0.7781	-0.0317	-0.0156	-0.0012	-0.0103	-0.0013	-0.0033
0.7799	0.7774	0.7753	0.7719	0.7793	0.7771	-0.0040	0.0022	-0.0031	0.0031	0.0030	-0.0024
0.7707	0.7798	0.7728	0.7786	0.7740	0.7823	0.0021	0.0141	0.0086	0.0029	0.0071	0.0053
AVERAGE	= 0.7773					AVERAGE	=-0.0022				
$R/R_t = 0.880 \quad X/R_t = 0.87$ POINT NUMBER = 18											
0.7745	0.7837	0.7750	0.7815	0.7764	0.7838	-0.0001	-0.0040	-0.0088	-0.0025	-0.0058	-0.0024
0.7819	0.7788	0.7737	0.7726	0.7719	0.7665	-0.0031	-0.0071	-0.0109	-0.0103	-0.0120	-0.0189
0.7506	0.7508	0.7766	0.7835	0.7845	0.7828	-0.0178	0.0137	-0.0060	-0.0022	0.0101	0.0004
0.7804	0.7899	0.7835	0.7812	0.7761	0.7692	-0.0019	0.0073	0.0069	0.0089	0.0055	0.0095
0.7834	0.7895	0.7828	0.7763	0.7755	0.7778	0.0058	0.0049	0.0055	0.0013	0.0043	-0.0008
AVERAGE	= 0.7761					AVERAGE	=-0.0023				
$R/R_t = 0.840 \quad X/R_t = 0.87$ POINT NUMBER = 19											
0.7717	0.7764	0.7767	0.7814	0.7814	0.7679	-0.0007	0.0020	-0.0031	-0.0023	-0.0008	0.0063
0.7688	0.7683	0.7711	0.7742	0.7625	0.7653	-0.0061	-0.0066	-0.0093	-0.0064	-0.0065	-0.0183
0.7583	0.7629	0.7822	0.7815	0.7830	0.7799	-0.0231	0.0114	-0.0125	-0.0094	0.0003	-0.0049
0.7839	0.7734	0.7824	0.7789	0.7751	0.7821	0.0016	-0.0023	0.0045	-0.0043	0.0002	0.0069
0.7821	0.7821	0.7749	0.7746	0.7812	0.7763	-0.0014	0.0092	0.0045	-0.0009	0.0025	-0.0012
AVERAGE	= 0.7746					AVERAGE	=-0.0036				
$R/R_t = 0.798 \quad X/R_t = 0.87$ POINT NUMBER = 20											
0.7801	0.7594	0.7795	0.7737	0.7693	0.7753	0.0072	0.0067	0.0009	0.0082	0.0064	-0.0059
0.7777	0.7706	0.7776	0.7716	0.7662	0.7640	-0.0004	-0.0088	-0.0003	-0.0124	-0.0045	-0.0094
0.7397	0.7503	0.7781	0.7717	0.7798	0.7847	0.0030	0.0213	-0.0094	-0.0110	-0.0094	-0.0043
0.7680	0.7881	0.7781	0.7770	0.7716	0.7894	0.0037	0.0042	-0.0007	0.0020	0.0047	0.0089
0.7703	0.7837	0.7760	0.7801	0.7851	0.7752	0.0101	0.0029	0.0097	0.0106	0.0044	-0.0020
AVERAGE	= 0.7729					AVERAGE	= 0.0001				
$R/R_t = 0.756 \quad X/R_t = 0.87$ POINT NUMBER = 21											
0.7831	0.7814	0.7704	0.7638	0.7729	0.7678	0.0028	-0.0013	-0.0020	0.0006	-0.0049	-0.0025
0.7724	0.7603	0.7715	0.7709	0.7647	0.7671	-0.0129	-0.0027	-0.0067	-0.0103	-0.0078	-0.0139
0.7633	0.7825	0.7823	0.7800	0.7740	0.7821	-0.0064	-0.0104	-0.0112	-0.0076	-0.0095	-0.0117
0.7800	0.7783	0.7676	0.7728	0.7819	0.7775	-0.0080	-0.0033	0.0128	0.0060	0.0011	0.0024
0.7800	0.7782	0.7737	0.7734	0.7781	0.7771	0.0006	0.0062	-0.0031	0.0018	-0.0036	0.0004
AVERAGE	= 0.7743					AVERAGE	=-0.0045				
$R/R_t = 0.713 \quad X/R_t = 0.87$ POINT NUMBER = 22											
0.7687	0.7762	0.7698	0.7733	0.7734	0.7704	0.0100	-0.0014	-0.0050	-0.0014	-0.0083	-0.0037
0.7727	0.7698	0.7708	0.7668	0.7688	0.7710	-0.0000	-0.0059	-0.0007	-0.0019	-0.0105	-0.0045
0.7302	0.7785	0.7866	0.7861	0.7821	0.7755	0.0065	-0.0048	-0.0074	-0.0058	-0.0061	-0.0049
0.7835	0.7797	0.7805	0.7817	0.7750	0.7776	-0.0006	0.0010	-0.0005	-0.0059	0.0080	-0.0064
0.7791	0.7769	0.7863	0.7683	0.7705	0.7737	-0.0032	-0.0049	-0.0011	0.0034	0.0017	-0.0032
AVERAGE	= 0.7758					AVERAGE	=-0.0033				
$R/R_t = 0.670 \quad X/R_t = 0.87$ POINT NUMBER = 23											
0.7730	0.7688	0.7679	0.7641	0.7715	0.7731	-0.0051	-0.0028	0.0012	0.0007	-0.0042	-0.0038
0.7672	0.7674	0.7679	0.7720	0.7670	0.7618	-0.0054	-0.0070	-0.0066	-0.0073	-0.0072	-0.0013
0.7446	0.7835	0.7806	0.7837	0.7849	0.7742	0.0021	0.0003	-0.0061	-0.0057	-0.0062	-0.0079
0.7796	0.7774	0.7771	0.7778	0.7743	0.7764	-0.0067	-0.0049	0.0011	-0.0015	-0.0025	-0.0026
0.7724	0.7744	0.7731	0.7706	0.7701	0.7782	0.0036	-0.0007	-0.0018	0.0007	-0.0062	-0.0010
AVERAGE	= 0.7738					AVERAGE	=-0.0040				
$R/R_t = 0.630 \quad X/R_t = 0.88$ POINT NUMBER = 24											
0.7666	0.7624	0.7643	0.7691	0.7715	0.7683	0.0020	0.0074	-0.0009	-0.0033	-0.0011	-0.0021
0.7697	0.7717	0.7662	0.7629	0.7688	0.7635	-0.0041	-0.0051	-0.0031	-0.0025	-0.0015	0.0030
0.7717	0.7877	0.7790	0.7797	0.7796	0.7822	0.0091	0.0012	-0.0022	-0.0016	-0.0011	-0.0008
0.7800	0.7785	0.7812	0.7787	0.7729	0.7665	0.0021	0.0048	-0.0021	-0.0033	-0.0029	-0.0034
0.7726	0.7710	0.7665	0.7694	0.7705	0.7733	0.0014	0.0031	0.0004	-0.0045	-0.0041	-0.0020
AVERAGE	= 0.7735					AVERAGE	=-0.0013				

TABLE V. - Continued.

(7) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.590 \quad X/R_t = 0.88 \quad \text{POINT NUMBER} = 25$											
0.7310	0.7418	0.7413	0.7475	0.7391	0.7365	0.0416	0.0147	0.0399	0.0313	0.0268	0.0279
0.7362	0.7256	0.7410	0.7384	0.7319	0.7264	0.0368	0.0425	0.0246	0.0259	0.0362	0.0320
0.7369	0.7410	0.7526	0.7484	0.7588	0.7512	0.0791	0.0408	0.0337	0.0313	0.0263	0.0236
0.7671	0.7528	0.7451	0.7451	0.7488	0.7547	0.0156	0.0240	0.0289	0.0425	0.0345	0.0314
0.7382	0.7446	0.7426	0.7390	0.7464	0.7273	0.0443	0.0231	0.0279	0.0388	0.0290	0.0346
AVERAGE = 0.7424						AVERAGE = 0.0328					
$R/R_t = 0.590 \quad X/R_t = 0.88 \quad \text{POINT NUMBER} = 26$											
0.7676	0.7551	0.7643	0.7466	0.7454	0.7644	0.0102	0.0151	0.0166	0.0279	0.0217	0.0076
0.7438	0.7558	0.7561	0.7626	0.7308	0.7438	0.0217	0.0131	0.0249	0.0236	0.0292	0.0166
0.7528	0.7655	0.7557	0.7576	0.7757	0.7682	0.0559	0.0203	0.0305	0.0222	0.0129	0.0083
0.7668	0.7616	0.7732	0.7415	0.7618	0.7525	0.0219	0.0174	0.0220	0.0371	0.0184	0.0173
0.7622	0.7599	0.7683	0.7700	0.7635	0.7718	0.0162	0.0242	0.0105	0.0146	0.0076	0.0154
AVERAGE = 0.7592						AVERAGE = 0.0192					
$R/R_t = 0.547 \quad X/R_t = 0.88 \quad \text{POINT NUMBER} = 27$											
0.6996	0.7131	0.6953	0.7038	0.6832	0.6942	0.0085	0.0098	0.0165	0.0060	0.0058	0.0129
0.6953	0.7135	0.7085	0.6749	0.7188	0.6576	-0.0016	0.0181	0.0253	0.0148	0.0052	0.0233
0.6721	0.6824	0.6929	0.6996	0.7169	0.7163	0.0303	0.0280	-0.0046	0.0008	-0.0064	-0.0129
0.7258	0.7034	0.7060	0.6969	0.7085	0.6864	-0.0070	-0.0025	-0.0031	0.0038	-0.0030	0.0059
0.7011	0.7001	0.6993	0.6988	0.6936	0.6921	-0.0009	-0.0017	0.0047	0.0171	0.0003	0.0103
AVERAGE = 0.6978						AVERAGE = 0.0072					
(8) Exit velocity for windmill operation: nominal $X/R_t = 0.89; A_T = 345.28 \text{ m/s}$ (1132.8 ft/s); $\beta_{3/4} = 60.1^\circ$.											
AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.030 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 2$											
0.7726	0.7753	0.7774	0.7739	0.7746	0.7672	0.0216	0.0184	0.0147	0.0123	0.0172	0.0231
0.7780	0.7836	0.7840	0.7913	0.7760	0.7240	0.0161	0.0105	0.0100	0.0026	0.0109	0.0356
0.7135	0.7160	0.7485	0.7672	0.7591	0.7728	0.0459	0.0631	0.0405	0.0350	0.0334	0.0314
0.7709	0.7611	0.7650	0.7707	0.7687	0.7639	0.0237	0.0311	0.0283	0.0216	0.0208	0.0276
0.7695	0.7640	0.7652	0.7644	0.7728	0.7680	0.0195	0.0315	0.0239	0.0239	0.0167	0.0214
AVERAGE = 0.7517						AVERAGE = 0.0329					
$R/R_t = 1.080 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 2$											
0.7778	0.7744	0.7692	0.7917	0.7953	0.7826	0.0313	0.0356	0.0367	0.0232	0.0151	0.0200
0.7948	0.7434	0.7800	0.7843	0.7772	0.7750	-0.0005	0.0505	0.0264	0.0442	0.0454	0.0451
0.7772	0.7689	0.7674	0.7727	0.7763	0.7725	0.0419	0.0411	0.0478	0.0473	0.0382	0.0414
0.7681	0.7711	0.7748	0.7760	0.7734	0.7735	0.0414	0.0386	0.0376	0.0317	0.0368	0.0347
0.7839	0.7797	0.7806	0.7726	0.7741	0.7852	0.0330	0.0349	0.0304	0.0333	0.0325	0.0282
AVERAGE = 0.7757						AVERAGE = 0.0348					
$R/R_t = 1.130 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 3$											
0.7747	0.7808	0.7841	0.7704	0.7744	0.7858	0.0370	0.0286	0.0280	0.0313	0.0341	0.0301
0.7810	0.7708	0.7492	0.7553	0.7667	0.7622	0.0423	0.0626	0.0744	0.0531	0.0431	0.0499
0.7715	0.7758	0.7707	0.7687	0.7707	0.7707	0.0416	0.0416	0.0399	0.0411	0.0389	0.0453
0.7669	0.7685	0.7704	0.7716	0.7727	0.7723	0.0417	0.0370	0.0329	0.0378	0.0370	0.0343
0.7788	0.7744	0.7777	0.7805	0.7832	0.7775	0.0328	0.0294	0.0284	0.0252	0.0337	0.0335
AVERAGE = 0.7712						AVERAGE = 0.0403					
$R/R_t = 1.180 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 4$											
0.7786	0.7783	0.7780	0.7847	0.7753	0.7814	0.0320	0.0284	0.0308	0.0323	0.0344	0.0322
0.7808	0.7712	0.7699	0.7743	0.7782	0.7617	0.0388	0.0486	0.0466	0.0434	0.0418	0.0454
0.7707	0.7716	0.7685	0.7698	0.7662	0.7607	0.0418	0.0362	0.0413	0.0343	0.0416	0.0457
0.7736	0.7742	0.7730	0.7718	0.7739	0.7755	0.0347	0.0357	0.0337	0.0353	0.0360	0.0359
0.7754	0.7777	0.7778	0.7745	0.7775	0.7680	0.0337	0.0336	0.0345	0.0352	0.0291	0.0313
AVERAGE = 0.7740						AVERAGE = 0.0364					
$R/R_t = 1.230 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 5$											
0.7782	0.7762	0.7666	0.7694	0.7844	0.7805	0.0298	0.0341	0.0413	0.0381	0.0290	0.0325
0.7850	0.7759	0.7726	0.7737	0.7722	0.7712	0.0328	0.0372	0.0419	0.0495	0.0444	0.0391
0.7675	0.7697	0.7646	0.7677	0.7717	0.7684	0.0419	0.0418	0.0392	0.0408	0.0380	0.0353
0.7723	0.7703	0.7655	0.7658	0.7747	0.7664	0.0380	0.0424	0.0357	0.0392	0.0356	0.0366
0.7617	0.7692	0.7721	0.7679	0.7801	0.7684	0.0441	0.0355	0.0314	0.0349	0.0297	0.0333
AVERAGE = 0.7716						AVERAGE = 0.0373					

TABLE V. - Continued.

(8) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.270 \quad X/R_t = 0.89$ POINT NUMBER = 6											
0.7761	0.7660	0.7730	0.7823	0.7722	0.7715	0.0371	0.0378	0.0356	0.0354	0.0329	0.0380
0.7697	0.7741	0.7835	0.7745	0.7737	0.7660	0.0390	0.0367	0.0404	0.0351	0.0335	0.0365
0.7669	0.7693	0.7664	0.7688	0.7659	0.7730	0.0429	0.0429	0.0380	0.0378	0.0413	0.0378
0.7590	0.7733	0.7645	0.7675	0.7658	0.7767	0.0413	0.0355	0.0350	0.0447	0.0423	0.0343
0.7710	0.7682	0.7681	0.7700	0.7692	0.7734	0.0358	0.0397	0.0332	0.0340	0.0352	0.0378
AVERAGE	= 0.7707					AVERAGE	= 0.0375				
$R/R_t = 1.320 \quad X/R_t = 0.89$ POINT NUMBER = 7											
0.7767	0.7718	0.7662	0.7721	0.7730	0.7647	0.0337	0.0367	0.0421	0.0358	0.0348	0.0393
0.7726	0.7711	0.7731	0.7674	0.7731	0.7707	0.0374	0.0367	0.0316	0.0417	0.0391	0.0369
0.7682	0.7645	0.7635	0.7641	0.7686	0.7623	0.0403	0.0411	0.0437	0.0403	0.0390	0.0390
0.7669	0.7671	0.7661	0.7633	0.7649	0.7654	0.0354	0.0375	0.0431	0.0367	0.0395	0.0390
0.7694	0.7677	0.7677	0.7714	0.7706	0.7750	0.0311	0.0380	0.0365	0.0319	0.0314	0.0364
AVERAGE	= 0.7692					AVERAGE	= 0.0372				
$R/R_t = 1.370 \quad X/R_t = 0.89$ POINT NUMBER = 8											
0.7679	0.7579	0.7718	0.7517	0.7685	0.7737	0.0343	0.0388	0.0397	0.0472	0.0351	0.0370
0.7685	0.7715	0.7684	0.7701	0.7697	0.7733	0.0355	0.0370	0.0393	0.0390	0.0329	0.0354
0.7732	0.7618	0.7634	0.7632	0.7620	0.7652	0.0356	0.0350	0.0333	0.0343	0.0387	0.0361
0.7649	0.7663	0.7609	0.7539	0.7703	0.7686	0.0387	0.0398	0.0421	0.0468	0.0361	0.0380
0.7603	0.7580	0.7602	0.7639	0.7695	0.7721	0.0350	0.0439	0.0391	0.0405	0.0402	0.0370
AVERAGE	= 0.7659					AVERAGE	= 0.0389				
$R/R_t = 1.420 \quad X/R_t = 0.89$ POINT NUMBER = 9											
0.7680	0.7661	0.7667	0.7645	0.7640	0.7642	0.0347	0.0380	0.0407	0.0313	0.0375	0.0406
0.7684	0.7722	0.7678	0.7647	0.7736	0.7601	0.0400	0.0373	0.0402	0.0374	0.0362	0.0442
0.7621	0.7704	0.7692	0.7632	0.7594	0.7694	0.0407	0.0350	0.0363	0.0380	0.0426	0.0353
0.7622	0.7655	0.7648	0.7662	0.7527	0.7633	0.0385	0.0353	0.0383	0.0350	0.0426	0.0383
0.7659	0.7617	0.7612	0.7521	0.7616	0.7692	0.0343	0.0380	0.0436	0.0418	0.0417	0.0411
AVERAGE	= 0.7647					AVERAGE	= 0.0385				
$R/R_t = 1.470 \quad X/R_t = 0.89$ POINT NUMBER = 10											
0.7568	0.7631	0.7677	0.7625	0.7543	0.7692	0.0517	0.0380	0.0381	0.0402	0.0370	0.0373
0.7667	0.7604	0.7682	0.7645	0.7668	0.7639	0.0379	0.0427	0.0383	0.0387	0.0359	0.0389
0.7605	0.7742	0.7661	0.7651	0.7603	0.7553	0.0439	0.0364	0.0403	0.0443	0.0354	0.0425
0.7617	0.7654	0.7550	0.7672	0.7666	0.7591	0.0410	0.0389	0.0406	0.0346	0.0348	0.0403
0.7593	0.7617	0.7613	0.7505	0.7635	0.7553	0.0415	0.0391	0.0357	0.0468	0.0433	0.0405
AVERAGE	= 0.7623					AVERAGE	= 0.0404				
$R/R_t = 1.040 \quad X/R_t = 0.89$ POINT NUMBER = 11											
0.7836	0.7824	0.7821	0.7876	0.7894	0.7820	0.0230	0.0263	0.0205	0.0203	0.0130	-0.0041
0.7366	0.7243	0.7730	0.7792	0.7807	0.7752	0.0230	0.0288	0.0566	0.0543	0.0507	0.0501
0.7738	0.7690	0.7714	0.7715	0.7624	0.7769	0.0494	0.0525	0.0502	0.0467	0.0529	0.0385
0.7783	0.7733	0.7763	0.7767	0.7760	0.7815	0.0375	0.0370	0.0415	0.0328	0.0307	0.0340
0.7790	0.7791	0.7710	0.7797	0.7783	0.7776	0.0339	0.0299	0.0348	0.0321	0.0343	0.0268
AVERAGE	= 0.7734					AVERAGE	= 0.0355				
$R/R_t = 0.990 \quad X/R_t = 0.89$ POINT NUMBER = 12											
0.7807	0.7827	0.7628	0.7760	0.7586	0.7533	0.0239	0.0189	0.0275	0.0159	0.0213	0.0158
0.7426	0.7157	0.7522	0.7704	0.7666	0.7728	0.0155	0.0555	0.0655	0.0556	0.0571	0.0528
0.7737	0.7827	0.7765	0.7740	0.7777	0.7719	0.0532	0.0448	0.0461	0.0417	0.0432	0.0404
0.7745	0.7781	0.7723	0.7830	0.7764	0.7748	0.0352	0.0409	0.0377	0.0355	0.0371	0.0399
0.7846	0.7844	0.7784	0.7786	0.7819	0.7702	0.0350	0.0387	0.0310	0.0271	0.0308	0.0311
AVERAGE	= 0.7711					AVERAGE	= 0.0385				
$R/R_t = 0.950 \quad X/R_t = 0.89$ POINT NUMBER = 13											
0.7707	0.7622	0.7709	0.7672	0.7555	0.7474	0.0349	0.0335	0.0253	0.0329	0.0373	0.0409
0.7423	0.7164	0.7583	0.7699	0.7751	0.7752	0.0433	0.0504	0.0534	0.0554	0.0471	0.0483
0.7804	0.7746	0.7715	0.7760	0.7789	0.7768	0.0485	0.0485	0.0518	0.0438	0.0410	0.0413
0.7734	0.7803	0.7782	0.7798	0.7707	0.7699	0.0425	0.0374	0.0395	0.0385	0.0453	0.0293
0.7609	0.7724	0.7789	0.7756	0.7781	0.7645	0.0464	0.0378	0.0307	0.0296	0.0313	0.0407
AVERAGE	= 0.7671					AVERAGE	= 0.0427				

TABLE V. - Continued.

(8) Continued.

AXIAL VELOCITY							RADIAL VELOCITY						
$R/R_t = 0.900 \quad X/R_t = 0.89$ POINT NUMBER = 14													
0.7737	0.7749	0.7612	0.7652	0.7565	0.7501	0.0331	0.0328	0.0414	0.0336	0.0433	0.0416		
0.7436	0.7472	0.7626	0.7692	0.7737	0.7794	0.0538	0.0590	0.0523	0.0538	0.0487	0.0461		
0.7760	0.7779	0.7785	0.7694	0.7704	0.7829	0.0435	0.0485	0.0501	0.0453	0.0435	0.0382		
0.7792	0.7784	0.7708	0.7794	0.7719	0.7717	0.0387	0.0448	0.0440	0.0373	0.0393	0.0397		
0.7847	0.7812	0.7766	0.7684	0.7709	0.7752	0.0363	0.0410	0.0366	0.0372	0.0399	0.0337		
AVERAGE = 0.7700							AVERAGE = 0.0430						
$R/R_t = 0.860 \quad X/R_t = 0.89$ POINT NUMBER = 15													
0.7681	0.7609	0.7557	0.7657	0.7531	0.7596	0.0438	0.0450	0.0445	0.0422	0.0502	0.0431		
0.7556	0.7421	0.7672	0.7681	0.7725	0.7667	0.0525	0.0546	0.0477	0.0497	0.0458	0.0537		
0.7726	0.7644	0.7790	0.7704	0.7768	0.7752	0.0442	0.0561	0.0441	0.0524	0.0481	0.0403		
0.7721	0.7688	0.7771	0.7771	0.7767	0.7805	0.0456	0.0467	0.0425	0.0450	0.0389	0.0385		
0.7745	0.7775	0.7738	0.7601	0.7617	0.7708	0.0424	0.0392	0.0425	0.0413	0.0489	0.0404		
AVERAGE = 0.7674							AVERAGE = 0.0462						
$R/R_t = 0.810 \quad X/R_t = 0.89$ POINT NUMBER = 16													
0.7575	0.7545	0.7623	0.7570	0.7534	0.7549	0.0505	0.0468	0.0504	0.0503	0.0587	0.0477		
0.7517	0.7497	0.7754	0.7701	0.7826	0.7786	0.0487	0.0548	0.0461	0.0480	0.0473	0.0442		
0.7586	0.7730	0.7796	0.7790	0.7730	0.7740	0.0595	0.0474	0.0486	0.0413	0.0455	0.0422		
0.7767	0.7672	0.7811	0.7756	0.7739	0.7692	0.0441	0.0509	0.0415	0.0444	0.0505	0.0444		
0.7722	0.7782	0.7747	0.7724	0.7721	0.7674	0.0446	0.0409	0.0401	0.0463	0.0351	0.0501		
AVERAGE = 0.7683							AVERAGE = 0.0475						
$R/R_t = 0.770 \quad X/R_t = 0.89$ POINT NUMBER = 17													
0.7684	0.7745	0.7640	0.7642	0.7694	0.7661	0.0515	0.0510	0.0521	0.0542	0.0559	0.0530		
0.7526	0.7328	0.7691	0.7756	0.7739	0.7828	0.0662	0.0666	0.0490	0.0470	0.0484	0.0426		
0.7857	0.7706	0.7791	0.7807	0.7846	0.7791	0.0394	0.0528	0.0526	0.0527	0.0492	0.0488		
0.7805	0.7715	0.7785	0.7665	0.7811	0.7744	0.0498	0.0541	0.0445	0.0510	0.0493	0.0543		
0.7762	0.7734	0.7646	0.7610	0.7648	0.7676	0.0539	0.0521	0.0550	0.0503	0.0549	0.0512		
AVERAGE = 0.7711							AVERAGE = 0.0518						
$R/R_t = 0.720 \quad X/R_t = 0.89$ POINT NUMBER = 18													
0.7677	0.7699	0.7570	0.7707	0.7657	0.7650	0.0549	0.0597	0.0666	0.0578	0.0616	0.0646		
0.7459	0.7598	0.7683	0.7672	0.7840	0.7837	0.0794	0.0603	0.0528	0.0528	0.0458	0.0487		
0.7809	0.7843	0.7843	0.7704	0.7690	0.7749	0.0493	0.0489	0.0516	0.0573	0.0630	0.0600		
0.7742	0.7819	0.7704	0.7825	0.7784	0.7703	0.0562	0.0544	0.0604	0.0513	0.0510	0.0528		
0.7737	0.7738	0.7755	0.7769	0.7731	0.7714	0.0515	0.0550	0.0517	0.0555	0.0508	0.0571		
AVERAGE = 0.7718							AVERAGE = 0.0562						
$R/R_t = 0.680 \quad X/R_t = 0.89$ POINT NUMBER = 19													
0.7757	0.7692	0.7735	0.7647	0.7643	0.7600	0.0649	0.0655	0.0665	0.0767	0.0707	0.0765		
0.7578	0.7603	0.7737	0.7737	0.7797	0.7688	0.0743	0.0617	0.0570	0.0564	0.0492	0.0644		
0.7678	0.7643	0.7775	0.7912	0.7788	0.7875	0.0584	0.0683	0.0553	0.0475	0.0549	0.0559		
0.7782	0.7552	0.7837	0.7795	0.7813	0.7684	0.0568	0.0749	0.0529	0.0596	0.0529	0.0648		
0.7826	0.7656	0.7668	0.7660	0.7724	0.7764	0.0589	0.0682	0.0620	0.0686	0.0650	0.0709		
AVERAGE = 0.7714							AVERAGE = 0.0628						
$R/R_t = 0.640 \quad X/R_t = 0.89$ POINT NUMBER = 20													
0.7606	0.7752	0.7743	0.7594	0.7716	0.7586	0.0821	0.0697	0.0742	0.0822	0.0729	0.0812		
0.7534	0.7736	0.7877	0.7878	0.7725	0.7768	0.0742	0.0649	0.0554	0.0557	0.0636	0.0621		
0.7857	0.7586	0.7633	0.7754	0.7713	0.7709	0.0557	0.0750	0.0686	0.0712	0.0676	0.0718		
0.7796	0.7781	0.7794	0.7691	0.7870	0.7756	0.0682	0.0606	0.0588	0.0707	0.0576	0.0680		
0.7624	0.7793	0.7668	0.7677	0.7745	0.7719	0.0779	0.0651	0.0743	0.0697	0.0674	0.0688		
AVERAGE = 0.7719							AVERAGE = 0.0687						
$R/R_t = 0.590 \quad X/R_t = 0.89$ POINT NUMBER = 21													
0.7757	0.7683	0.7774	0.7683	0.7726	0.7535	0.0798	0.0803	0.0809	0.0776	0.0937	0.0809		
0.7702	0.7895	0.7895	0.7925	0.7865	0.7933	0.0719	0.0535	0.0569	0.0553	0.0580	0.0600		
0.7723	0.7907	0.7882	0.7875	0.7833	0.7751	0.0693	0.0596	0.0626	0.0651	0.0681	0.0724		
0.7823	0.7865	0.7895	0.7782	0.7908	0.7798	0.0686	0.0595	0.0680	0.0711	0.0654	0.0621		
0.7778	0.7796	0.7780	0.7798	0.7782	0.7738	0.0682	0.0735	0.0741	0.0736	0.0726	0.0750		
AVERAGE = 0.7797							AVERAGE = 0.0690						

TABLE V. - Continued.

(8) Concluded.

AXIAL VELOCITY

RADIAL VELOCITY

$R/R_t = 0.550$	$X/R_t = 0.89$	POINT NUMBER = 22									
0.7746	0.7753	0.7836	0.7801	0.7761	0.7770	0.0842	0.0925	0.0872	0.0916	0.0947	0.0800
0.7766	0.7854	0.7971	0.7862	0.7956	0.7884	0.0789	0.0808	0.0702	0.0757	0.0610	0.0735
0.7798	0.7897	0.7813	0.7944	0.7905	0.7862	0.0711	0.0676	0.0797	0.0698	0.0736	0.0650
0.7836	0.7888	0.7940	0.7913	0.7745	0.7865	0.0713	0.0694	0.0787	0.0760	0.0837	0.0749
0.7701	0.7737	0.7776	0.7824	0.7851	0.7833	0.0845	0.0850	0.0847	0.0849	0.0822	0.0896
AVERAGE	= 0.7832					AVERAGE = 0.0789					
$R/R_t = 0.510$	$X/R_t = 0.89$	POINT NUMBER = 23									
0.7771	0.7742	0.7844	0.7849	0.7704	0.7735	0.0930	0.0899	0.0985	0.1048	0.0942	0.0917
0.7847	0.7950	0.8012	0.7915	0.7927	0.7878	0.0883	0.0769	0.0816	0.0784	0.0741	0.0772
0.7925	0.7914	0.7882	0.7877	0.7965	0.7835	0.0770	0.0734	0.0848	0.0847	0.0840	0.0829
0.7912	0.7804	0.7880	0.7873	0.7801	0.7810	0.0843	0.0883	0.0826	0.0862	0.0779	0.0920
0.7828	0.7841	0.7857	0.7826	0.7866	0.7809	0.0953	0.0925	0.0884	0.0960	0.0929	0.0912
AVERAGE	= 0.7856					AVERAGE = 0.0867					
$R/R_t = 0.460$	$X/R_t = 0.89$	POINT NUMBER = 24									
0.7845	0.7868	0.7873	0.7828	0.7848	0.7947	0.1040	0.1062	0.1048	0.0990	0.1122	0.1085
0.8002	0.8011	0.7918	0.7967	0.7883	0.7925	0.0943	0.0954	0.0899	0.0933	0.0934	0.0937
0.7898	0.7912	0.7948	0.7870	0.7904	0.7845	0.0794	0.0893	0.0942	0.0920	0.0900	0.0840
0.7905	0.7866	0.7940	0.7833	0.7893	0.7903	0.0929	0.0971	0.1020	0.0990	0.0968	0.1031
0.7917	0.7836	0.7834	0.7892	0.7884	0.7881	0.1034	0.0930	0.0967	0.0966	0.0981	0.1045
AVERAGE	= 0.7900					AVERAGE = 0.0968					
$R/R_t = 0.420$	$X/R_t = 0.89$	POINT NUMBER = 25									
0.7882	0.7857	0.7820	0.7670	0.7805	0.7930	0.1274	0.1307	0.1245	0.1373	0.1285	0.1157
0.7877	0.7925	0.7933	0.7975	0.7946	0.7888	0.1233	0.1135	0.1167	0.1111	0.1128	0.1115
0.7873	0.7890	0.7773	0.7848	0.7785	0.7805	0.1118	0.1088	0.0934	0.1032	0.1186	0.1100
0.7760	0.7820	0.7811	0.7858	0.7866	0.7842	0.1215	0.1087	0.1149	0.1207	0.1170	0.1260
0.7739	0.7789	0.7793	0.7865	0.7882	0.7818	0.1199	0.1170	0.1233	0.1292	0.1205	0.1336
AVERAGE	= 0.7846					AVERAGE = 0.1187					
$R/R_t = 0.380$	$X/R_t = 0.89$	POINT NUMBER = 26									
0.7683	0.7753	0.7661	0.7328	0.7384	0.7547	0.1517	0.1386	0.1481	0.1478	0.1194	0.1427
0.7918	0.7941	0.7861	0.7905	0.7919	0.7880	0.1440	0.1505	0.1438	0.1454	0.1505	0.1512
0.7938	0.7915	0.7864	0.7909	0.7823	0.7865	0.1457	0.1506	0.1517	0.1413	0.1443	0.1370
0.7797	0.7832	0.7783	0.7795	0.7754	0.7860	0.1343	0.1474	0.1485	0.1434	0.1426	0.1538
0.7800	0.7799	0.7874	0.7821	0.7740	0.7834	0.1522	0.1465	0.1529	0.1533	0.1471	0.1465
AVERAGE	= 0.7823					AVERAGE = 0.1467					

(9) Exit velocity for windmill operation: nominal $X/R_t = 1.11$; $A_T = 338.54$ m/s (1110.7 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY

TANGENTIAL VELOCITY

$R/R_t = 1.041$	$X/R_t = 1.11$	POINT NUMBER = 1									
0.7674	0.7661	0.7733	0.7710	0.7683	0.7747	-0.0048	-0.0095	0.0004	0.0001	-0.0059	0.0039
0.7693	0.7683	0.7690	0.7725	0.7731	0.7701	-0.0011	-0.0037	0.0021	0.0018	-0.0014	0.0037
0.7683	0.7733	0.7770	0.7746	0.7727	0.7794	0.0018	0.0037	0.0044	0.0060	0.0021	0.0106
0.7693	0.7413	0.7558	0.7755	0.7810	0.7782	0.0186	0.0647	0.0152	0.0203	0.0094	0.0033
0.7752	0.7700	0.7748	0.7758	0.7704	0.7720	0.0093	-0.0007	-0.0033	0.0008	-0.0017	-0.0007
AVERAGE	= 0.7712					AVERAGE = 0.0038					
$R/R_t = 1.164$	$X/R_t = 1.10$	POINT NUMBER = 2									
0.7772	0.7663	0.7647	0.7661	0.7718	0.7646	0.0089	-0.0043	-0.0027	-0.0019	-0.0009	-0.0032
0.7693	0.7625	0.7705	0.7732	0.7597	0.7695	-0.0034	-0.0036	0.0042	0.0044	-0.0079	0.0007
0.7579	0.7715	0.7688	0.7742	0.7611	0.7679	-0.0131	0.0050	-0.0023	0.0109	0.0027	0.0050
0.7726	0.7683	0.7606	0.7662	0.7677	0.7742	0.0044	0.0020	-0.0056	0.0014	0.0007	0.0034
0.7719	0.7633	0.7711	0.7673	0.7686	0.7725	-0.0016	-0.0031	-0.0039	-0.0026	-0.0006	0.0029
AVERAGE	= 0.7681					AVERAGE = -0.0002					
$R/R_t = 1.284$	$X/R_t = 1.10$	POINT NUMBER = 3									
0.7670	0.7629	0.7620	0.7654	0.7682	0.7611	0.0026	0.0013	-0.0077	-0.0028	-0.0010	-0.0089
0.7654	0.7601	0.7647	0.7649	0.7669	0.7672	-0.0081	-0.0013	0.0006	-0.0039	-0.0066	0.0025
0.7614	0.7529	0.7562	0.7584	0.7616	0.7586	-0.0030	-0.0071	-0.0077	-0.0035	-0.0054	-0.0018
0.7619	0.7487	0.7604	0.7613	0.7628	0.7530	-0.0018	-0.0174	-0.0052	-0.0052	-0.0032	-0.0119
0.7606	0.7695	0.7657	0.7568	0.7601	0.7597	-0.0050	0.0007	0.0061	-0.0101	-0.0042	-0.0049
AVERAGE	= 0.7618					AVERAGE = -0.0046					

TABLE V. - Continued.

(9) Continued.

AXIAL VELOCITY							TANGENTIAL VELOCITY						
$R/R_t = 1.402 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 4													
0.7638	0.7627	0.7544	0.7660	0.7634	0.7652	-0.0028	-0.0029	-0.0114	-0.0032	-0.0033	0.0008		
0.7602	0.7644	0.7624	0.7609	0.7625	0.7627	-0.0056	-0.0024	-0.0045	-0.0067	-0.0024	-0.0033		
0.7618	0.7612	0.7624	0.7652	0.7662	0.7598	-0.0011	-0.0028	-0.0050	-0.0018	-0.0007	-0.0076		
0.7631	0.7707	0.7642	0.7640	0.7552	0.7687	-0.0025	0.0065	-0.0005	-0.0009	-0.0097	0.0032		
0.7628	0.7655	0.7648	0.7602	0.7655	0.7660	-0.0017	0.0020	0.0017	-0.0066	0.0017	0.0011		
AVERAGE = 0.7631							AVERAGE = -0.0024						
$R/R_t = 1.478 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 5													
0.7573	0.7618	0.7629	0.7599	0.7569	0.7636	-0.0086	-0.0043	-0.0049	-0.0077	-0.0123	-0.0063		
0.7641	0.7604	0.7588	0.7576	0.7692	0.7641	-0.0041	-0.0064	-0.0083	-0.0121	0.0018	-0.0035		
0.7578	0.7656	0.7635	0.7640	0.7660	0.7597	-0.0072	-0.0015	-0.0001	-0.0035	-0.0007	-0.0074		
0.7595	0.7575	0.7580	0.7584	0.7587	0.7611	-0.0036	-0.0035	-0.0076	-0.0078	-0.0086	-0.0056		
0.7665	0.7624	0.7642	0.7608	0.7571	0.7568	-0.0031	-0.0060	-0.0013	-0.0068	-0.0097	-0.0086		
AVERAGE = 0.7615							AVERAGE = -0.0060						
$R/R_t = 1.560 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 6													
0.7647	0.7649	0.7591	0.7640	0.7646	0.7612	-0.0033	-0.0043	-0.0078	-0.0060	-0.0031	-0.0104		
0.7624	0.7610	0.7629	0.7641	0.7584	0.7627	-0.0045	-0.0041	-0.0116	-0.0047	-0.0083	-0.0082		
0.7623	0.7636	0.7662	0.7642	0.7661	0.7611	-0.0052	-0.0053	-0.0049	-0.0064	-0.0007	-0.0083		
0.7625	0.7595	0.7642	0.7612	0.7650	0.7588	-0.0098	-0.0072	-0.0057	-0.0050	-0.0013	-0.0079		
0.7598	0.7618	0.7595	0.7619	0.7645	0.7613	-0.0032	-0.0034	-0.0075	-0.0050	-0.0045	-0.0080		
AVERAGE = 0.7624							AVERAGE = -0.0059						
$R/R_t = 1.363 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 7													
0.7605	0.7614	0.7643	0.7573	0.7610	0.7634	-0.0050	-0.0064	-0.0029	-0.0071	-0.0111	-0.0037		
0.7654	0.7630	0.7650	0.7642	0.7618	0.7619	-0.0008	-0.0050	-0.0034	-0.0037	-0.0038	-0.0032		
0.7626	0.7618	0.7643	0.7645	0.7638	0.7632	0.0011	-0.0007	-0.0011	-0.0022	-0.0011	-0.0009		
0.7609	0.7659	0.7656	0.7655	0.7599	0.7585	-0.0070	0.0005	-0.0028	0.0012	-0.0048	-0.0059		
0.7602	0.7643	0.7628	0.7656	0.7672	0.7628	-0.0054	-0.0000	-0.0026	0.0009	0.0023	-0.0021		
AVERAGE = 0.7629							AVERAGE = -0.0027						
$R/R_t = 1.322 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 8													
0.7628	0.7657	0.7651	0.7659	0.7692	0.7688	0.0013	-0.0002	-0.0041	-0.0012	-0.0006	0.0004		
0.7697	0.7653	0.7655	0.7664	0.7674	0.7556	0.0003	-0.0038	-0.0010	-0.0019	-0.0038	-0.0093		
0.7660	0.7676	0.7611	0.7642	0.7637	0.7669	0.0005	-0.0001	-0.0025	-0.0036	0.0003	-0.0006		
0.7655	0.7673	0.7647	0.7655	0.7639	0.7679	0.0019	0.0002	-0.0008	-0.0021	-0.0033	0.0032		
0.7692	0.7667	0.7646	0.7627	0.7555	0.7606	0.0026	0.0020	-0.0032	-0.0054	-0.0094	-0.0049		
AVERAGE = 0.7650							AVERAGE = -0.0017						
$R/R_t = 1.244 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 9													
0.7668	0.7659	0.7675	0.7665	0.7647	0.7654	0.0002	0.0014	0.0015	-0.0011	-0.0029	-0.0032		
0.7668	0.7638	0.7632	0.7637	0.7663	0.7691	0.0010	-0.0034	-0.0027	-0.0006	-0.0001	0.0030		
0.7617	0.7659	0.7665	0.7628	0.7701	0.7636	-0.0032	0.0031	-0.0006	-0.0009	0.0040	0.0014		
0.7669	0.7650	0.7648	0.7642	0.7641	0.7661	0.0028	0.0011	0.0020	-0.0005	0.0031	0.0012		
0.7666	0.7609	0.7649	0.7667	0.7664	0.7662	-0.0002	-0.0086	-0.0023	-0.0024	-0.0023	0.0004		
AVERAGE = 0.7655							AVERAGE = -0.0004						
$R/R_t = 1.204 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 10													
0.7645	0.7661	0.7657	0.7646	0.7692	0.7655	-0.0013	-0.0004	0.0029	-0.0024	0.0036	-0.0014		
0.7669	0.7638	0.7637	0.7681	0.7674	0.7637	-0.0029	-0.0001	-0.0013	-0.0011	-0.0007	-0.0016		
0.7655	0.7669	0.7628	0.7688	0.7681	0.7640	-0.0016	0.0043	-0.0008	0.0048	0.0036	0.0032		
0.7675	0.7618	0.7613	0.7663	0.7662	0.7710	0.0041	-0.0012	-0.0029	0.0045	0.0011	0.0020		
0.7650	0.7665	0.7608	0.7651	0.7677	0.7637	-0.0010	0.0007	-0.0030	0.0005	-0.0021	-0.0013		
AVERAGE = 0.7658							AVERAGE = -0.0001						
$R/R_t = 1.124 \quad X/R_t = 1.11 \quad$ POINT NUMBER = 11													
0.7676	0.7696	0.7674	0.7662	0.7697	0.7689	0.0042	0.0010	-0.0016	0.0001	0.0025	0.0011		
0.7662	0.7650	0.7694	0.7665	0.7647	0.7705	-0.0018	-0.0016	0.0029	-0.0008	-0.0012	0.0015		
0.7652	0.7704	0.7674	0.7673	0.7702	0.7680	0.0009	0.0041	0.0048	0.0022	0.0029	0.0047		
0.7696	0.7665	0.7701	0.7611	0.7661	0.7705	0.0059	0.0027	0.0041	-0.0023	0.0002	0.0055		
0.7694	0.7728	0.7686	0.7735	0.7674	0.7664	0.0023	0.0056	0.0010	0.0025	0.0004	-0.0004		
AVERAGE = 0.7682							AVERAGE = 0.0018						

TABLE V. - Continued.

(9) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY						
$R/R_t = 1.083 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 12$												
0.7671	0.7680	0.7685	0.7643	0.7691	0.7666	-0.0012	-0.0009	0.0012	-0.0032	-0.0014	-0.0017	
0.7584	0.7691	0.7732	0.7675	0.7701	0.7709	0.0051	0.0018	0.0016	-0.0013	0.0012	0.0031	
0.7679	0.7754	0.7712	0.7704	0.7746	0.7782	0.0012	0.0054	0.0003	0.0043	0.0083	0.0110	
0.7701	0.7495	0.7529	0.7636	0.7721	0.7741	0.0225	0.0262	0.0117	-0.0003	0.0036	0.0049	
0.7709	0.7700	0.7692	0.7711	0.7693	0.7718	0.0020	0.0019	0.0021	0.0014	-0.0002	0.0038	
AVERAGE	= 0.7692					AVERAGE	= 0.0038					
$R/R_t = 0.998 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 13$												
0.7684	0.7653	0.7697	0.7678	0.7668	0.7653	0.0002	-0.0048	0.0005	-0.0037	-0.0014	-0.0011	
0.7721	0.7665	0.7666	0.7675	0.7713	0.7678	-0.0013	-0.0032	-0.0006	-0.0019	0.0010	-0.0011	
0.7643	0.7662	0.7684	0.7692	0.7701	0.7661	-0.0017	-0.0028	-0.0007	-0.0022	-0.0025	0.0039	
0.7579	0.7414	0.7611	0.7668	0.7716	0.7759	0.0014	0.0082	0.0149	0.0076	0.0025	0.0022	
0.7710	0.7652	0.7674	0.7706	0.7689	0.7704	0.0008	-0.0025	-0.0033	0.0041	0.0025	0.0006	
AVERAGE	= 0.7671					AVERAGE	= 0.0002					
$R/R_t = 0.960 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 14$												
0.7695	0.7711	0.7696	0.7715	0.7695	0.7701	-0.0016	-0.0006	-0.0005	-0.0027	-0.0008	-0.0024	
0.7681	0.7683	0.7707	0.7679	0.7656	0.7662	-0.0017	-0.0026	0.0038	-0.0007	-0.0020	-0.0022	
0.7668	0.7683	0.7679	0.7660	0.7710	0.7629	-0.0024	-0.0015	-0.0010	-0.0026	-0.0032	-0.0063	
0.7584	0.7545	0.7544	0.7658	0.7592	0.7649	-0.0137	-0.0136	0.0040	-0.0089	-0.0104	-0.0048	
0.7666	0.7668	0.7656	0.7644	0.7665	0.7699	-0.0036	-0.0026	-0.0036	-0.0047	-0.0014	-0.0005	
AVERAGE	= 0.7666					AVERAGE	= -0.0032					
$R/R_t = 0.920 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 15$												
0.7665	0.7704	0.7645	0.7665	0.7691	0.7681	0.0006	-0.0016	-0.0056	0.0002	-0.0008	-0.0025	
0.7666	0.7725	0.7674	0.7672	0.7684	0.7650	-0.0012	-0.0000	-0.0059	-0.0012	-0.0019	-0.0042	
0.7663	0.7674	0.7676	0.7662	0.7687	0.7672	-0.0026	-0.0045	-0.0030	-0.0058	-0.0051	-0.0098	
0.7618	0.7536	0.7518	0.7622	0.7623	0.7673	-0.0147	-0.0231	-0.0113	-0.0124	-0.0097	-0.0074	
0.7692	0.7677	0.7682	0.7668	0.7689	0.7674	-0.0014	-0.0024	-0.0045	-0.0023	-0.0021	-0.0036	
AVERAGE	= 0.7662					AVERAGE	= -0.0051					
$R/R_t = 0.880 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 16$												
0.7665	0.7636	0.7698	0.7659	0.7631	0.7651	-0.0006	-0.0031	-0.0017	-0.0012	-0.0003	0.0004	
0.7629	0.7702	0.7676	0.7635	0.7667	0.7629	-0.0069	0.0031	0.0010	-0.0039	-0.0002	-0.0072	
0.7644	0.7629	0.7633	0.7647	0.7615	0.7648	-0.0032	-0.0059	-0.0052	-0.0065	-0.0111	-0.0113	
0.7625	0.7590	0.7683	0.7665	0.7679	0.7655	-0.0154	-0.0153	0.0002	-0.0096	-0.0058	-0.0077	
0.7646	0.7646	0.7656	0.7654	0.7661	0.7622	-0.0053	-0.0041	-0.0035	-0.0017	-0.0017	-0.0050	
AVERAGE	= 0.7649					AVERAGE	= -0.0051					
$R/R_t = 0.840 \quad X/R_t = 1.11 \quad \text{POINT NUMBER} = 17$												
0.7627	0.7623	0.7628	0.7631	0.7632	0.7673	0.0001	-0.0039	-0.0040	-0.0043	0.0005	0.0002	
0.7643	0.7671	0.7664	0.7680	0.7665	0.7682	0.0007	-0.0040	0.0008	-0.0007	0.0008	-0.0014	
0.7650	0.7656	0.7631	0.7653	0.7669	0.7644	-0.0059	-0.0031	-0.0067	-0.0105	-0.0050	-0.0125	
0.7621	0.7566	0.7546	0.7655	0.7647	0.7633	-0.0133	-0.0072	0.0008	-0.0098	-0.0112	-0.0072	
0.7638	0.7653	0.7656	0.7627	0.7662	0.7667	-0.0001	-0.0020	-0.0021	-0.0000	-0.0022	0.0001	
AVERAGE	= 0.7646					AVERAGE	= -0.0042					
$R/R_t = 0.798 \quad X/R_t = 1.12 \quad \text{POINT NUMBER} = 18$												
0.7627	0.7624	0.7660	0.7638	0.7662	0.7611	-0.0017	-0.0014	-0.0000	-0.0020	-0.0003	-0.0029	
0.7668	0.7605	0.7647	0.7638	0.7611	0.7653	0.0044	-0.0019	-0.0019	-0.0006	-0.0032	0.0011	
0.7665	0.7623	0.7659	0.7637	0.7676	0.7637	-0.0031	-0.0059	-0.0074	-0.0038	-0.0075	-0.0089	
0.7629	0.7498	0.7633	0.7681	0.7700	0.7600	-0.0095	0.0008	-0.0088	-0.0095	-0.0110	-0.0064	
0.7610	0.7571	0.7608	0.7646	0.7637	0.7620	-0.0075	-0.0042	-0.0023	-0.0016	-0.0032	-0.0012	
AVERAGE	= 0.7635					AVERAGE	= -0.0041					
$R/R_t = 0.756 \quad X/R_t = 1.12 \quad \text{POINT NUMBER} = 19$												
0.7580	0.7585	0.7652	0.7593	0.7604	0.7575	-0.0004	-0.0014	0.0025	-0.0024	-0.0031	-0.0029	
0.7597	0.7582	0.7560	0.7631	0.7602	0.7611	-0.0001	-0.0013	0.0014	0.0017	-0.0029	-0.0050	
0.7605	0.7626	0.7609	0.7596	0.7595	0.7620	-0.0034	-0.0073	-0.0055	-0.0055	-0.0062	-0.0088	
0.7622	0.7348	0.7528	0.7641	0.7607	0.7599	-0.0093	0.0055	-0.0024	-0.0081	-0.0118	-0.0060	
0.7653	0.7538	0.7600	0.7574	0.7597	0.7603	-0.0042	-0.0098	-0.0023	-0.0042	-0.0010	-0.0015	
AVERAGE	= 0.7599					AVERAGE	= -0.0041					

TABLE V. - Continued.

(9) Concluded.

AXIAL VELOCITY

TANGENTIAL VELOCITY

R/R _t = 0.713 X/R _t = 1.12 POINT NUMBER = 20											
0.7575	0.7560	0.7581	0.7545	0.7549	0.7579	-0.0014	0.0007	-0.0000	-0.0023	-0.0005	-0.0028
0.7571	0.7573	0.7556	0.7546	0.7551	0.7596	-0.0021	0.0004	-0.0028	-0.0033	-0.0032	-0.0036
0.7576	0.7585	0.7589	0.7559	0.7592	0.7580	-0.0054	-0.0027	-0.0024	-0.0041	-0.0061	-0.0078
0.7565	0.7455	0.7570	0.7599	0.7604	0.7557	-0.0031	0.0027	-0.0072	-0.0097	-0.0106	-0.0122
0.7592	0.7548	0.7544	0.7571	0.7587	0.7579	-0.0002	-0.0053	-0.0075	0.0001	0.0007	0.0010
AVERAGE	= 0.7580					AVERAGE	= -0.0040				

(10) Exit velocity for windmill operation: nominal X/R_t = 1.14; A_T = 345.28 m/s (1132.8 ft/s); β_{3/4} = 60.1°.

AXIAL VELOCITY

RADIAL VELOCITY

R/R _t = 0.380 X/R _t = 1.14 POINT NUMBER = 1											
0.8519	0.8546	0.8528	0.8508	0.8441	0.8468	0.0546	0.0538	0.0486	0.0570	0.0600	0.0497
0.8312	0.8132	0.7985	0.7760	0.7722	0.7912	0.0468	0.0535	0.0290	0.0486	0.0443	0.0542
0.8274	0.7966	0.8320	0.8533	0.8615	0.8581	0.0284	0.0569	0.0484	0.0532	0.0358	0.0471
0.8595	0.8540	0.8722	0.8609	0.8649	0.8620	0.0542	0.0554	0.0441	0.0502	0.0467	0.0532
0.8585	0.8585	0.8483	0.8550	0.8483	0.8423	0.0509	0.0542	0.0553	0.0548	0.0570	0.0531
AVERAGE	= 0.8486					AVERAGE	= 0.0518				

R/R _t = 0.420 X/R _t = 1.14 POINT NUMBER = 3											
0.8294	0.8179	0.8155	0.8209	0.8272	0.8342	0.1067	0.1070	0.1030	0.1085	0.1046	0.0929
0.8155	0.8253	0.8082	0.8034	0.7823	0.8140	0.1018	0.0908	0.0863	0.0855	0.0930	0.0774
0.8240	0.8462	0.8448	0.8488	0.8439	0.8401	0.0817	0.0870	0.0959	0.0959	0.1003	0.0922
0.8426	0.8448	0.8357	0.8332	0.8305	0.8457	0.0975	0.1029	0.1054	0.1011	0.0968	0.0945
0.8241	0.8264	0.8287	0.8227	0.8246	0.8376	0.0956	0.1073	0.1034	0.0993	0.0936	0.0949
AVERAGE	= 0.8297					AVERAGE	= 0.0983				

R/R _t = 0.460 X/R _t = 1.14 POINT NUMBER = 4											
0.8423	0.8349	0.8397	0.8398	0.8390	0.8353	0.0784	0.0745	0.0825	0.0734	0.0720	0.0806
0.8279	0.8324	0.8317	0.8355	0.8252	0.8218	0.0814	0.0868	0.0862	0.0760	0.0785	0.0746
0.8359	0.8367	0.8414	0.8401	0.8476	0.8418	0.0777	0.0742	0.0741	0.0757	0.0749	0.0771
0.8448	0.8413	0.8440	0.8446	0.8369	0.8385	0.0726	0.0774	0.0756	0.0776	0.0787	0.0759
0.8365	0.8285	0.8343	0.8414	0.8382	0.8405	0.0796	0.0745	0.0810	0.0802	0.0802	0.0815
AVERAGE	= 0.8378					AVERAGE	= 0.0786				

R/R _t = 0.510 X/R _t = 1.14 POINT NUMBER = 5											
0.8197	0.8261	0.8240	0.8281	0.8227	0.8262	0.0706	0.0738	0.0693	0.0719	0.0730	0.0752
0.8249	0.8291	0.8182	0.8199	0.8060	0.8095	0.0726	0.0770	0.0716	0.0751	0.0744	0.0653
0.8197	0.8260	0.8311	0.8331	0.8264	0.8243	0.0630	0.0648	0.0644	0.0650	0.0636	0.0627
0.8310	0.8225	0.8256	0.8256	0.8246	0.8264	0.0613	0.0670	0.0654	0.0651	0.0660	0.0668
0.8246	0.8257	0.8238	0.8291	0.8278	0.8219	0.0690	0.0644	0.0701	0.0660	0.0706	0.0717
AVERAGE	= 0.8255					AVERAGE	= 0.0689				

R/R _t = 0.550 X/R _t = 1.14 POINT NUMBER = 6											
0.8151	0.8183	0.8198	0.8197	0.8127	0.8128	0.0663	0.0638	0.0636	0.0670	0.0669	0.0676
0.8206	0.8217	0.8179	0.8194	0.8069	0.7994	0.0674	0.0707	0.0727	0.0712	0.0718	0.0628
0.8012	0.8184	0.8223	0.8212	0.8193	0.8154	0.0549	0.0507	0.0493	0.0485	0.0536	0.0579
0.8157	0.8181	0.8213	0.8172	0.8187	0.8160	0.0532	0.0569	0.0555	0.0590	0.0607	0.0580
0.8145	0.8085	0.8197	0.8224	0.8210	0.8218	0.0555	0.0620	0.0628	0.0563	0.0607	0.0600
AVERAGE	= 0.8168					AVERAGE	= 0.0614				

R/R _t = 0.590 X/R _t = 1.14 POINT NUMBER = 7											
0.8039	0.8149	0.8092	0.8081	0.8084	0.8077	0.0589	0.0576	0.0605	0.0586	0.0612	0.0630
0.8121	0.8063	0.8082	0.8067	0.8084	0.7978	0.0620	0.0644	0.0697	0.0700	0.0698	0.0682
0.7807	0.7980	0.8111	0.8118	0.8068	0.8119	0.0476	0.0424	0.0441	0.0450	0.0451	0.0477
0.8106	0.8082	0.8076	0.8059	0.8086	0.8099	0.0490	0.0513	0.0481	0.0496	0.0500	0.0501
0.8085	0.8109	0.8116	0.8107	0.8095	0.8106	0.0552	0.0535	0.0549	0.0549	0.0548	0.0555
AVERAGE	= 0.8083					AVERAGE	= 0.0558				

R/R _t = 0.640 X/R _t = 1.14 POINT NUMBER = 8											
0.7963	0.8011	0.7980	0.8017	0.7979	0.7984	0.0515	0.0514	0.0560	0.0560	0.0526	0.0546
0.7990	0.8021	0.7971	0.7981	0.7974	0.7914	0.0587	0.0615	0.0594	0.0636	0.0648	0.0674
0.7824	0.7897	0.7905	0.8026	0.8022	0.8028	0.0649	0.0520	0.0404	0.0380	0.0388	0.0405
0.8047	0.8018	0.8044	0.8037	0.7981	0.8021	0.0397	0.0441	0.0459	0.0445	0.0455	0.0481
0.7978	0.8016	0.8010	0.7966	0.7981	0.8003	0.0470	0.0486	0.0480	0.0499	0.0506	0.0522
AVERAGE	= 0.7988					AVERAGE	= 0.0512				

TABLE V. - Continued.

(10) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.680 \quad X/R_t = 1.14$ POINT NUMBER = 9											
0.7955	0.7943	0.7931	0.7948	0.7906	0.7927	0.0490	0.0508	0.0505	0.0477	0.0520	0.0517
0.7902	0.7919	0.7901	0.7935	0.7961	0.7915	0.0499	0.0526	0.0537	0.0573	0.0587	0.0596
0.7851	0.7708	0.7922	0.7941	0.7964	0.7954	0.0636	0.0450	0.0354	0.0335	0.0335	0.0342
0.7998	0.7963	0.7923	0.7948	0.8001	0.7972	0.0396	0.0380	0.0430	0.0441	0.0433	0.0430
0.7941	0.7955	0.7958	0.7925	0.7949	0.7953	0.0432	0.0446	0.0446	0.0456	0.0460	0.0441
AVERAGE = 0.7941						AVERAGE = 0.0465					
$R/R_t = 0.720 \quad X/R_t = 1.14$ POINT NUMBER = 10											
0.7895	0.7873	0.7907	0.7880	0.7894	0.7871	0.0428	0.0436	0.0455	0.0438	0.0473	0.0468
0.7859	0.7879	0.7857	0.7862	0.7908	0.7851	0.0452	0.0504	0.0493	0.0521	0.0502	0.0539
0.7791	0.7683	0.7787	0.7928	0.7892	0.7916	0.0517	0.0524	0.0315	0.0304	0.0315	0.0331
0.7906	0.7904	0.7921	0.7904	0.7905	0.7895	0.0345	0.0390	0.0320	0.0395	0.0410	0.0399
0.7907	0.7901	0.7933	0.7860	0.7907	0.7874	0.0404	0.0394	0.0405	0.0413	0.0413	0.0433
AVERAGE = 0.7890						AVERAGE = 0.0424					
$R/R_t = 0.770 \quad X/R_t = 1.14$ POINT NUMBER = 11											
0.7873	0.7824	0.7828	0.7842	0.7824	0.7810	0.0383	0.0416	0.0393	0.0398	0.0417	0.0424
0.7832	0.7846	0.7826	0.7815	0.7830	0.7806	0.0425	0.0486	0.0461	0.0450	0.0435	0.0474
0.7771	0.7736	0.7715	0.7767	0.7820	0.7827	0.0475	0.0448	0.0354	0.0339	0.0297	0.0331
0.7840	0.7819	0.7856	0.7883	0.7877	0.7860	0.0339	0.0350	0.0377	0.0353	0.0350	0.0366
0.7815	0.7856	0.7807	0.7811	0.7817	0.7844	0.0402	0.0372	0.0403	0.0403	0.0390	0.0363
AVERAGE = 0.7830						AVERAGE = 0.0388					
$R/R_t = 0.810 \quad X/R_t = 1.14$ POINT NUMBER = 12											
0.7819	0.7801	0.7797	0.7816	0.7805	0.7828	0.0367	0.0403	0.0399	0.0364	0.0382	0.0365
0.7802	0.7767	0.7809	0.7798	0.7781	0.7793	0.0381	0.0380	0.0405	0.0398	0.0412	0.0390
0.7737	0.7705	0.7670	0.7732	0.7795	0.7780	0.0395	0.0402	0.0352	0.0340	0.0330	0.0343
0.7810	0.7813	0.7805	0.7804	0.7817	0.7787	0.0361	0.0356	0.0381	0.0388	0.0361	0.0374
0.7816	0.7804	0.7823	0.7767	0.7825	0.7822	0.0385	0.0350	0.0347	0.0351	0.0354	0.0354
AVERAGE = 0.7798						AVERAGE = 0.0369					
$R/R_t = 0.860 \quad X/R_t = 1.14$ POINT NUMBER = 13											
0.7816	0.7828	0.7796	0.7804	0.7802	0.7798	0.0342	0.0343	0.0326	0.0325	0.0335	0.0322
0.7806	0.7822	0.7819	0.7796	0.7776	0.7785	0.0362	0.0317	0.0340	0.0334	0.0315	0.0325
0.7726	0.7721	0.7563	0.7679	0.7705	0.7764	0.0298	0.0359	0.0323	0.0370	0.0274	0.0290
0.7817	0.7748	0.7794	0.7827	0.7835	0.7831	0.0305	0.0328	0.0331	0.0321	0.0345	0.0365
0.7824	0.7856	0.7803	0.7836	0.7799	0.7817	0.0349	0.0353	0.0350	0.0361	0.0383	0.0326
AVERAGE = 0.7795						AVERAGE = 0.0331					
$R/R_t = 0.900 \quad X/R_t = 1.14$ POINT NUMBER = 14											
0.7772	0.7786	0.7771	0.7786	0.7790	0.7789	0.0328	0.0292	0.0339	0.0315	0.0311	0.0302
0.7799	0.7769	0.7743	0.7763	0.7760	0.7730	0.0282	0.0266	0.0275	0.0275	0.0294	0.0285
0.7749	0.7703	0.7578	0.7697	0.7772	0.7790	0.0267	0.0284	0.0326	0.0341	0.0336	0.0362
0.7793	0.7776	0.7787	0.7764	0.7792	0.7772	0.0343	0.0347	0.0344	0.0361	0.0345	0.0344
0.7797	0.7778	0.7770	0.7781	0.7808	0.7782	0.0321	0.0307	0.0358	0.0328	0.0320	0.0320
AVERAGE = 0.7767						AVERAGE = 0.0319					
$R/R_t = 0.950 \quad X/R_t = 1.14$ POINT NUMBER = 15											
0.7773	0.7756	0.7785	0.7785	0.7777	0.7782	0.0290	0.0279	0.0289	0.0327	0.0215	0.0276
0.7746	0.7777	0.7785	0.7721	0.7774	0.7755	0.0227	0.0260	0.0224	0.0262	0.0210	0.0206
0.7715	0.7711	0.7665	0.7680	0.7755	0.7751	0.0224	0.0250	0.0241	0.0316	0.0372	0.0392
0.7752	0.7760	0.7798	0.7788	0.7737	0.7792	0.0364	0.0385	0.0362	0.0346	0.0363	0.0344
0.7760	0.7789	0.7768	0.7787	0.7760	0.7766	0.0338	0.0290	0.0343	0.0328	0.0314	0.0308
AVERAGE = 0.7763						AVERAGE = 0.0298					
$R/R_t = 0.990 \quad X/R_t = 1.14$ POINT NUMBER = 16											
0.7757	0.7769	0.7760	0.7768	0.7727	0.7746	0.0280	0.0283	0.0284	0.0243	0.0286	0.0259
0.7768	0.7764	0.7751	0.7782	0.7757	0.7687	0.0249	0.0223	0.0191	0.0227	0.0206	0.0156
0.7731	0.7693	0.7542	0.7565	0.7708	0.7704	0.0107	0.0154	0.0177	0.0427	0.0401	0.0418
0.7765	0.7728	0.7724	0.7758	0.7752	0.7786	0.0410	0.0403	0.0381	0.0339	0.0337	0.0364
0.7771	0.7791	0.7758	0.7769	0.7761	0.7752	0.0332	0.0326	0.0340	0.0300	0.0317	0.0323
AVERAGE = 0.7733						AVERAGE = 0.0290					

TABLE V. - Continued.

(10) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.040 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 17$											
0.7752	0.7768	0.7749	0.7756	0.7736	0.7707	0.0277	0.0288	0.0262	0.0253	0.0261	0.0260
0.7737	0.7762	0.7740	0.7732	0.7760	0.7747	0.0216	0.0200	0.0186	0.0217	0.0150	0.0077
0.7662	0.7677	0.7515	0.7643	0.7662	0.7692	0.0097	0.0073	0.0192	0.0625	0.0517	0.0431
0.7674	0.7744	0.7733	0.7722	0.7738	0.7743	0.0439	0.0379	0.0358	0.0371	0.0317	0.0322
0.7776	0.7679	0.7773	0.7774	0.7766	0.7720	0.0305	0.0370	0.0350	0.0324	0.0293	0.0276
AVERAGE = 0.7715						AVERAGE = 0.0287					
$R/R_t = 1.080 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 18$											
0.7734	0.7754	0.7716	0.7726	0.7746	0.7733	0.0325	0.0287	0.0267	0.0280	0.0282	0.0230
0.7767	0.7780	0.7784	0.7787	0.7750	0.7796	0.0226	0.0226	0.0213	0.0184	0.0158	0.0076
0.7710	0.7475	0.7484	0.7508	0.7597	0.7767	0.0021	0.0115	0.0461	0.0481	0.0441	0.0435
0.7778	0.7753	0.7766	0.7688	0.7751	0.7772	0.0389	0.0407	0.0367	0.0383	0.0317	0.0344
0.7729	0.7780	0.7768	0.7754	0.7732	0.7744	0.0344	0.0331	0.0325	0.0303	0.0325	0.0308
AVERAGE = 0.7712						AVERAGE = 0.0304					
$R/R_t = 1.130 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 19$											
0.7706	0.7738	0.7732	0.7737	0.7736	0.7708	0.0290	0.0288	0.0269	0.0290	0.0274	0.0268
0.7750	0.7751	0.7745	0.7777	0.7796	0.7814	0.0252	0.0235	0.0219	0.0207	0.0215	0.0222
0.7730	0.7493	0.7111	0.7168	0.7459	0.7700	0.0258	0.0599	0.0923	0.0549	0.0297	0.0286
0.7738	0.7737	0.7717	0.7739	0.7732	0.7738	0.0321	0.0358	0.0303	0.0337	0.0335	0.0358
0.7715	0.7759	0.7730	0.7782	0.7699	0.7721	0.0317	0.0309	0.0307	0.0295	0.0285	0.0330
AVERAGE = 0.7669						AVERAGE = 0.0338					
$R/R_t = 1.180 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 20$											
0.7713	0.7729	0.7681	0.7706	0.7715	0.7726	0.0304	0.0314	0.0251	0.0316	0.0290	0.0281
0.7738	0.7743	0.7733	0.7759	0.7750	0.7816	0.0249	0.0276	0.0265	0.0264	0.0238	0.0318
0.7782	0.7684	0.7593	0.7630	0.7755	0.7731	0.0335	0.0496	0.0691	0.0478	0.0425	0.0335
0.7754	0.7714	0.7738	0.7696	0.7723	0.7727	0.0320	0.0346	0.0332	0.0318	0.0357	0.0313
0.7730	0.7740	0.7737	0.7702	0.7725	0.7717	0.0345	0.0363	0.0309	0.0314	0.0339	0.0316
AVERAGE = 0.7722						AVERAGE = 0.0341					
$R/R_t = 1.230 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 21$											
0.7719	0.7694	0.7707	0.7696	0.7725	0.7721	0.0311	0.0284	0.0297	0.0301	0.0291	0.0264
0.7720	0.7749	0.7757	0.7746	0.7749	0.7740	0.0308	0.0318	0.0298	0.0256	0.0272	0.0355
0.7763	0.7745	0.7730	0.7726	0.7731	0.7711	0.0325	0.0333	0.0361	0.0365	0.0351	0.0382
0.7737	0.7711	0.7717	0.7706	0.7715	0.7728	0.0342	0.0322	0.0352	0.0339	0.0366	0.0337
0.7707	0.7735	0.7721	0.7735	0.7714	0.7707	0.0343	0.0321	0.0313	0.0331	0.0306	0.0273
AVERAGE = 0.7725						AVERAGE = 0.0321					
$R/R_t = 1.270 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 22$											
0.7674	0.7716	0.7707	0.7688	0.7693	0.7668	0.0296	0.0296	0.0275	0.0330	0.0296	0.0278
0.7727	0.7681	0.7675	0.7691	0.7700	0.7704	0.0316	0.0297	0.0329	0.0320	0.0267	0.0268
0.7749	0.7698	0.7728	0.7676	0.7705	0.7718	0.0337	0.0283	0.0340	0.0363	0.0355	0.0374
0.7697	0.7695	0.7700	0.7717	0.7707	0.7688	0.0356	0.0360	0.0343	0.0357	0.0358	0.0326
0.7696	0.7706	0.7718	0.7699	0.7667	0.7680	0.0314	0.0336	0.0330	0.0328	0.0297	0.0316
AVERAGE = 0.7699						AVERAGE = 0.0320					
$R/R_t = 1.320 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 23$											
0.7650	0.7658	0.7663	0.7683	0.7644	0.7675	0.0292	0.0324	0.0318	0.0311	0.0314	0.0297
0.7701	0.7676	0.7700	0.7692	0.7671	0.7687	0.0297	0.0332	0.0338	0.0331	0.0310	0.0330
0.7745	0.7692	0.7669	0.7677	0.7677	0.7663	0.0373	0.0347	0.0352	0.0315	0.0341	0.0350
0.7664	0.7659	0.7700	0.7669	0.7707	0.7681	0.0319	0.0332	0.0365	0.0332	0.0373	0.0318
0.7682	0.7697	0.7683	0.7641	0.7715	0.7678	0.0320	0.0355	0.0358	0.0282	0.0352	0.0263
AVERAGE = 0.7679						AVERAGE = 0.0328					
$R/R_t = 1.370 \quad X/R_t = 1.14 \quad \text{POINT NUMBER} = 24$											
0.7671	0.7681	0.7640	0.7710	0.7699	0.7687	0.0328	0.0354	0.0275	0.0337	0.0345	0.0354
0.7679	0.7692	0.7674	0.7614	0.7700	0.7669	0.0302	0.0348	0.0328	0.0338	0.0342	0.0321
0.7639	0.7711	0.7684	0.7662	0.7662	0.7701	0.0318	0.0350	0.0348	0.0312	0.0343	0.0363
0.7664	0.7708	0.7674	0.7635	0.7652	0.7669	0.0361	0.0359	0.0366	0.0350	0.0324	0.0319
0.7684	0.7648	0.7670	0.7691	0.7623	0.7696	0.0329	0.0288	0.0350	0.0337	0.0336	0.0355
AVERAGE = 0.7672						AVERAGE = 0.0335					

TABLE V. - Continued.

(10) Concluded.

AXIAL VELOCITY

RADIAL VELOCITY

$R/R_t = 1.420$	$X/R_t = 1.14$	POINT NUMBER = 25									
0.7642	0.7609	0.7662	0.7672	0.7628	0.7631	0.0302	0.0324	0.0367	0.0376	0.0279	0.0386
0.7677	0.7631	0.7624	0.7619	0.7631	0.7671	0.0376	0.0315	0.0297	0.0307	0.0328	0.0356
0.7654	0.7656	0.7647	0.7635	0.7624	0.7600	0.0358	0.0362	0.0301	0.0387	0.0305	0.0362
0.7652	0.7610	0.7686	0.7680	0.7602	0.7630	0.0322	0.0306	0.0380	0.0362	0.0280	0.0295
0.7679	0.7564	0.7628	0.7634	0.7626	0.7627	0.0367	0.0226	0.0307	0.0336	0.0307	0.0329
AVERAGE	= 0.7637					AVERAGE = 0.0329					

(11) Inlet velocity for powered operation: nominal $X/R_t = 0.06$; $A_T = 338.54 \text{ m/s}$ (1110.7 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY

TANGENTIAL VELOCITY

$R/R_t = 1.560$	$X/R_t = 0.04$	$X/R_t = 1.14$	POINT NUMBER = 1								
0.7553	0.7524	0.7488	0.7615	0.7547	0.7561	-0.0087	-0.0031	-0.0104	0.0028	-0.0053	-0.0071
0.7548	0.7605	0.7489	0.7576	0.7494	0.7556	-0.0065	-0.0011	-0.0082	-0.0043	-0.0059	-0.0066
0.7538	0.7556	0.7553	0.7500	0.7563	0.7532	-0.0038	-0.0041	-0.0043	-0.0095	-0.0035	-0.0064
0.7514	0.7551	0.7508	0.7556	0.7556	0.7579	-0.0081	-0.0038	-0.0053	-0.0080	-0.0077	-0.0047
0.7534	0.7547	0.7547	0.7542	0.7546	0.7531	-0.0094	-0.0090	-0.0083	-0.0068	-0.0066	-0.0052
AVERAGE	= 0.7543					AVERAGE = -0.0059					

$R/R_t = 1.478$	$X/R_t = 0.05$	$X/R_t = 1.14$	POINT NUMBER = 2								
0.7530	0.7534	0.7509	0.7544	0.7516	0.7505	-0.0025	-0.0035	-0.0071	-0.0004	-0.0068	-0.0048
0.7558	0.7481	0.7524	0.7508	0.7496	0.7498	-0.0006	-0.0068	-0.0037	-0.0044	-0.0044	-0.0027
0.7563	0.7580	0.7515	0.7558	0.7578	0.7525	0.0001	-0.0022	-0.0006	-0.0013	0.0004	-0.0038
0.7500	0.7532	0.7541	0.7527	0.7538	0.7563	-0.0065	-0.0033	-0.0029	-0.0067	-0.0093	-0.0044
0.7519	0.7561	0.7541	0.7579	0.7516	0.7448	-0.0067	-0.0021	-0.0048	-0.0029	-0.0078	-0.0120
AVERAGE	= 0.7528					AVERAGE = -0.0043					

$R/R_t = 1.402$	$X/R_t = 0.05$	POINT NUMBER = 3									
0.7460	0.7496	0.7474	0.7497	0.7502	0.7527	-0.0086	-0.0040	-0.0030	0.0010	0.0020	0.0024
0.7476	0.7487	0.7479	0.7508	0.7525	0.7542	-0.0026	-0.0007	-0.0024	-0.0010	-0.0013	-0.0021
0.7544	0.7545	0.7484	0.7519	0.7499	0.7500	-0.0014	-0.0012	-0.0059	-0.0032	-0.0048	-0.0052
0.7524	0.7523	0.7517	0.7471	0.7460	0.7516	-0.0020	-0.0047	-0.0005	-0.0093	-0.0070	-0.0032
0.7533	0.7509	0.7550	0.7562	0.7486	0.7530	-0.0026	-0.0025	-0.0014	0.0016	-0.0053	-0.0027
AVERAGE	= 0.7509					AVERAGE = -0.0026					

$R/R_t = 1.363$	$X/R_t = 0.05$	POINT NUMBER = 4									
0.7529	0.7525	0.7467	0.7519	0.7479	0.7484	-0.0023	-0.0005	-0.0029	0.0007	-0.0035	-0.0005
0.7493	0.7530	0.7471	0.7513	0.7544	0.7532	0.0013	0.0006	-0.0025	-0.0020	0.0036	-0.0015
0.7503	0.7562	0.7580	0.7520	0.7536	0.7529	-0.0013	-0.0004	-0.0011	-0.0030	-0.0040	-0.0019
0.7545	0.7544	0.7538	0.7547	0.7547	0.7540	-0.0028	-0.0016	-0.0056	-0.0022	-0.0006	-0.0043
0.7481	0.7524	0.7517	0.7540	0.7466	0.7529	-0.0069	-0.0059	-0.0044	-0.0047	-0.0059	0.0013
AVERAGE	= 0.7523					AVERAGE = -0.0020					

$R/R_t = 1.322$	$X/R_t = 0.05$	POINT NUMBER = 5									
0.7464	0.7529	0.7458	0.7461	0.7454	0.7478	-0.0036	0.0032	-0.0013	-0.0019	0.0006	0.0032
0.7477	0.7509	0.7498	0.7484	0.7521	0.7508	-0.0004	0.0022	-0.0006	-0.0005	-0.0011	-0.0000
0.7529	0.7501	0.7493	0.7529	0.7520	0.7544	-0.0033	0.0005	-0.0052	-0.0018	-0.0034	-0.0016
0.7520	0.7516	0.7520	0.7528	0.7499	0.7521	-0.0012	-0.0031	-0.0027	-0.0018	-0.0039	-0.0002
0.7498	0.7479	0.7529	0.7503	0.7463	0.7541	-0.0032	-0.0033	0.0005	0.0010	-0.0014	0.0043
AVERAGE	= 0.7502					AVERAGE = -0.0010					

$R/R_t = 1.284$	$X/R_t = 0.05$	POINT NUMBER = 6									
0.7497	0.7518	0.7475	0.7516	0.7448	0.7477	-0.0006	0.0032	0.0007	-0.0001	-0.0033	-0.0000
0.7467	0.7517	0.7495	0.7494	0.7493	0.7494	-0.0012	0.0029	0.0005	0.0006	0.0010	0.0007
0.7462	0.7504	0.7508	0.7532	0.7568	0.7547	-0.0022	-0.0039	-0.0032	-0.0002	0.0033	0.0014
0.7508	0.7502	0.7495	0.7514	0.7512	0.7516	-0.0014	-0.0040	-0.0026	-0.0020	-0.0039	-0.0004
0.7540	0.7527	0.7482	0.7497	0.7503	0.7473	0.0023	0.0005	-0.0008	-0.0012	-0.0002	-0.0005
AVERAGE	= 0.7501					AVERAGE = -0.0005					

$R/R_t = 1.244$	$X/R_t = 0.05$	POINT NUMBER = 7									
0.7511	0.7464	0.7506	0.7497	0.7466	0.7494	0.0019	-0.0032	0.0003	0.0021	-0.0044	-0.0029
0.7491	0.7492	0.7493	0.7483	0.7428	0.7501	-0.0002	0.0012	0.0020	-0.0015	-0.0048	-0.0015
0.7504	0.7526	0.7475	0.7475	0.7529	0.7516	-0.0014	0.0001	-0.0027	-0.0036	0.0002	0.0007
0.7506	0.7508	0.7518	0.7484	0.7531	0.7513	-0.0029	-0.0012	0.0030	0.0011	0.0024	0.0013
0.7537	0.7538	0.7476	0.7475	0.7460	0.7494	0.0017	0.0031	-0.0006	-0.0021	-0.0033	0.0007
AVERAGE	= 0.7496					AVERAGE = -0.0005					

TABLE V. - Continued.

(11) Continued.

AXIAL VELOCITY							TANGENTIAL VELOCITY						
$R/R_t = 1.204 \quad X/R_t = 0.05 \quad$ POINT NUMBER = 8													
0.7513	0.7471	0.7460	0.7469	0.7482	0.7468	0.0053	0.0014	-0.0027	-0.0015	0.0009	0.0007		
0.7502	0.7497	0.7497	0.7493	0.7474	0.7483	0.0034	0.0020	-0.0004	0.0016	-0.0017	-0.0027		
0.7507	0.7487	0.7537	0.7506	0.7528	0.7520	0.0014	-0.0019	0.0051	0.0024	0.0014	0.0041		
0.7542	0.7491	0.7491	0.7502	0.7514	0.7556	0.0037	0.0012	-0.0025	0.0020	-0.0003	0.0044		
0.7525	0.7516	0.7482	0.7465	0.7483	0.7467	0.0003	0.0033	-0.0011	0.0003	0.0040	0.0045		
AVERAGE = 0.7497							AVERAGE = 0.0012						
$R/R_t = 1.164 \quad X/R_t = 0.05 \quad$ POINT NUMBER = 9													
0.7493	0.7461	0.7514	0.7519	0.7490	0.7450	0.0052	0.0017	0.0037	0.0077	0.0024	-0.0005		
0.7483	0.7481	0.7497	0.7466	0.7493	0.7511	0.0011	0.0039	0.0023	0.0014	0.0005	-0.0001		
0.7544	0.7466	0.7491	0.7500	0.7512	0.7494	0.0041	-0.0050	0.0015	0.0018	0.0047	0.0003		
0.7491	0.7501	0.7548	0.7520	0.7468	0.7502	-0.0003	0.0044	0.0035	0.0040	-0.0032	-0.0034		
0.7505	0.7541	0.7450	0.7475	0.7488	0.7523	0.0016	0.0091	-0.0002	0.0037	0.0009	0.0032		
AVERAGE = 0.7495							AVERAGE = 0.0020						
$R/R_t = 1.124 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 11													
0.7465	0.7471	0.7449	0.7469	0.7478	0.7481	0.0021	-0.0002	0.0005	0.0025	0.0030	0.0014		
0.7484	0.7475	0.7503	0.7478	0.7491	0.7475	0.0032	0.0014	0.0034	0.0035	0.0018	0.0005		
0.7490	0.7475	0.7493	0.7493	0.7508	0.7466	0.0034	0.0014	0.0014	0.0018	0.0014	0.0014		
0.7502	0.7473	0.7475	0.7472	0.7495	0.7477	0.0007	0.0038	0.0006	0.0013	0.0021	0.0003		
0.7466	0.7493	0.7482	0.7483	0.7452	0.7458	0.0005	0.0015	0.0022	0.0012	-0.0004	0.0015		
AVERAGE = 0.7478							AVERAGE = 0.0015						
$R/R_t = 1.083 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 12													
0.7466	0.7443	0.7472	0.7467	0.7465	0.7456	0.0005	-0.0015	0.0016	0.0049	0.0020	0.0008		
0.7465	0.7455	0.7461	0.7478	0.7498	0.7494	0.0015	-0.0013	0.0022	0.0020	0.0029	0.0024		
0.7478	0.7490	0.7494	0.7465	0.7473	0.7503	0.0016	0.0033	0.0015	0.0001	0.0046	0.0005		
0.7481	0.7459	0.7463	0.7459	0.7457	0.7459	-0.0014	-0.0005	-0.0005	0.0023	0.0023	0.0021		
0.7449	0.7465	0.7448	0.7455	0.7466	0.7450	0.0019	0.0034	0.0022	0.0025	0.0024	0.0023		
AVERAGE = 0.7468							AVERAGE = 0.0015						
$R/R_t = 1.041 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 13													
0.7451	0.7439	0.7441	0.7450	0.7451	0.7464	0.0059	0.0008	-0.0003	0.0029	0.0027	0.0033		
0.7466	0.7467	0.7476	0.7457	0.7485	0.7462	0.0025	0.0032	0.0035	-0.0001	0.0032	0.0016		
0.7488	0.7502	0.7477	0.7480	0.7489	0.7482	0.0030	0.0022	-0.0007	0.0005	0.0027	0.0017		
0.7478	0.7453	0.7481	0.7467	0.7437	0.7464	0.0035	0.0023	0.0023	0.0023	0.0026	0.0032		
0.7465	0.7454	0.7465	0.7452	0.7439	0.7437	0.0023	0.0028	0.0050	0.0026	0.0010	-0.0012		
AVERAGE = 0.7465							AVERAGE = 0.0023						
$R/R_t = 0.998 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 14													
0.7439	0.7454	0.7448	0.7427	0.7430	0.7448	0.0024	0.0008	0.0025	0.0043	0.0007	0.0013		
0.7448	0.7453	0.7444	0.7498	0.7451	0.7442	0.0031	0.0025	-0.0005	0.0040	0.0016	0.0028		
0.7475	0.7442	0.7473	0.7491	0.7491	0.7436	-0.0014	0.0005	0.0007	0.0015	0.0002	0.0028		
0.7440	0.7464	0.7444	0.7430	0.7447	0.7448	0.0019	0.0005	0.0019	0.0019	0.0025	0.0044		
0.7421	0.7430	0.7423	0.7416	0.7422	0.7430	0.0013	0.0047	0.0049	0.0027	0.0008	0.0020		
AVERAGE = 0.7448							AVERAGE = 0.0020						
$R/R_t = 0.960 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 15													
0.7421	0.7445	0.7413	0.7430	0.7414	0.7431	0.0030	0.0054	0.0025	-0.0002	0.0016	0.0023		
0.7448	0.7448	0.7449	0.7450	0.7447	0.7448	0.0040	0.0023	0.0030	-0.0001	0.0026	0.0035		
0.7455	0.7456	0.7443	0.7410	0.7432	0.7439	-0.0006	0.0056	0.0006	0.0023	0.0032	0.0028		
0.7426	0.7453	0.7427	0.7429	0.7436	0.7424	0.0018	0.0068	0.0013	0.0026	0.0023	0.0041		
0.7414	0.7429	0.7400	0.7412	0.7412	0.7386	0.0049	0.0061	0.0028	0.0019	0.0035	0.0032		
AVERAGE = 0.7432							AVERAGE = 0.0029						
$R/R_t = 0.920 \quad X/R_t = 0.06 \quad$ POINT NUMBER = 16													
0.7418	0.7409	0.7407	0.7405	0.7418	0.7414	0.0050	0.0017	0.0023	0.0031	0.0029	0.0022		
0.7430	0.7440	0.7424	0.7430	0.7439	0.7451	0.0021	0.0004	0.0004	0.0032	0.0007	0.0020		
0.7419	0.7464	0.7434	0.7443	0.7417	0.7423	0.0015	0.0033	0.0020	0.0042	0.0047	0.0032		
0.7434	0.7408	0.7402	0.7439	0.7420	0.7433	0.0031	0.0031	-0.0000	0.0010	0.0005	0.0055		
0.7400	0.7411	0.7360	0.7430	0.7387	0.7378	-0.0002	-0.0002	-0.0020	0.0053	0.0007	0.0014		
AVERAGE = 0.7421							AVERAGE = 0.0023						

TABLE V. - Continued.

(11) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.880 \ X/R_t = 0.06$ POINT NUMBER = 17											
0.7441	0.7407	0.7409	0.7382	0.7412	0.7428	0.0089	0.0033	0.0014	0.0032	0.0040	0.0041
0.7413	0.7395	0.7428	0.7398	0.7426	0.7386	0.0030	0.0024	0.0028	-0.0000	0.0015	0.0006
0.7426	0.7412	0.7412	0.7415	0.7398	0.7392	0.0038	0.0029	-0.0011	0.0016	0.0032	0.0018
0.7387	0.7406	0.7373	0.7385	0.7379	0.7372	0.0032	0.0041	0.0015	0.0049	0.0024	0.0024
0.7380	0.7415	0.7403	0.7385	0.7411	0.7386	0.0032	0.0074	0.0038	0.0073	0.0030	0.0033
AVERAGE	= 0.7402					AVERAGE	= 0.0030				
$R/R_t = 0.862 \ X/R_t = 0.06$ POINT NUMBER = 18											
0.7379	0.7421	0.7411	0.7392	0.7430	0.7417	-0.0005	0.0040	0.0047	0.0041	0.0046	0.0045
0.7450	0.7380	0.7409	0.7410	0.7403	0.7400	0.0059	0.0016	0.0030	0.0024	0.0005	0.0015
0.7429	0.7412	0.7410	0.7418	0.7399	0.7412	0.0046	0.0044	0.0038	0.0025	0.0011	0.0080
0.7420	0.7385	0.7402	0.7365	0.7379	0.7427	0.0063	0.0040	0.0037	0.0003	0.0007	0.0063
0.7376	0.7377	0.7413	0.7391	0.7399	0.7418	0.0025	0.0029	0.0072	0.0062	0.0006	0.0034
AVERAGE	= 0.7403					AVERAGE	= 0.0035				
$R/R_t = 0.798 \ X/R_t = 0.07$ POINT NUMBER = 19											
0.7361	0.7385	0.7385	0.7358	0.7387	0.7390	0.0011	0.0039	0.0019	0.0038	0.0088	0.0041
0.7426	0.7373	0.7394	0.7376	0.7363	0.7381	0.0069	0.0055	0.0055	0.0027	0.0023	0.0007
0.7404	0.7408	0.7382	0.7416	0.7402	0.7390	0.0065	0.0025	0.0036	0.0041	0.0063	0.0039
0.7411	0.7401	0.7362	0.7391	0.7409	0.7396	0.0044	0.0052	0.0033	0.0059	0.0069	0.0039
0.7398	0.7365	0.7424	0.7386	0.7380	0.7380	0.0060	0.0049	0.0042	0.0050	0.0055	0.0063
AVERAGE	= 0.7390					AVERAGE	= 0.0046				
$R/R_t = 0.756 \ X/R_t = 0.07$ POINT NUMBER = 20											
0.7388	0.7385	0.7363	0.7365	0.7345	0.7367	0.0057	0.0051	0.0076	0.0037	0.0036	0.0049
0.7372	0.7368	0.7353	0.7347	0.7401	0.7356	0.0040	0.0079	0.0033	0.0016	0.0045	0.0062
0.7341	0.7362	0.7355	0.7362	0.7376	0.7354	0.0014	0.0021	0.0035	0.0042	0.0032	0.0042
0.7359	0.7321	0.7359	0.7356	0.7335	0.7349	0.0042	0.0028	0.0059	0.0035	0.0064	0.0057
0.7376	0.7355	0.7405	0.7367	0.7355	0.7344	0.0069	0.0053	0.0057	0.0058	0.0051	0.0059
AVERAGE	= 0.7360					AVERAGE	= 0.0046				
$R/R_t = 0.713 \ X/R_t = 0.07$ POINT NUMBER = 21											
0.7330	0.7388	0.7330	0.7357	0.7349	0.7328	0.0017	0.0061	0.0041	0.0049	0.0035	0.0025
0.7382	0.7358	0.7316	0.7358	0.7335	0.7376	0.0078	0.0068	0.0044	0.0038	0.0032	0.0083
0.7354	0.7376	0.7334	0.7304	0.7330	0.7412	0.0029	0.0065	0.0041	0.0026	0.0027	0.0104
0.7352	0.7354	0.7388	0.7338	0.7323	0.7365	0.0058	0.0057	0.0077	0.0019	0.0031	0.0028
0.7366	0.7341	0.7352	0.7374	0.7336	0.7334	0.0059	0.0057	0.0104	0.0081	0.0053	0.0028
AVERAGE	= 0.7350					AVERAGE	= 0.0049				
$R/R_t = 0.670 \ X/R_t = 0.07$ POINT NUMBER = 22											
0.7315	0.7332	0.7288	0.7310	0.7285	0.7346	0.0085	0.0070	0.0068	0.0076	0.0050	0.0123
0.7271	0.7314	0.7376	0.7289	0.7344	0.7299	0.0036	0.0038	0.0115	0.0039	0.0086	0.0038
0.7294	0.7305	0.7289	0.7350	0.7358	0.7306	0.0075	0.0056	0.0034	0.0105	0.0086	0.0024
0.7345	0.7304	0.7346	0.7314	0.7376	0.7294	0.0105	0.0060	0.0102	0.0056	0.0126	0.0077
0.7299	0.7329	0.7314	0.7364	0.7344	0.7330	0.0023	0.0028	0.0053	0.0102	0.0039	0.0055
AVERAGE	= 0.7321					AVERAGE	= 0.0067				
$R/R_t = 0.630 \ X/R_t = 0.07$ POINT NUMBER = 23											
0.7291	0.7299	0.7315	0.7376	0.7322	0.7354	0.0041	0.0035	0.0086	0.0114	0.0118	0.0158
0.7335	0.7269	0.7313	0.7364	0.7279	0.7301	0.0103	0.0059	0.0068	0.0110	0.0084	0.0101
0.7298	0.7300	0.7332	0.7335	0.7313	0.7307	0.0104	0.0072	0.0062	0.0097	0.0091	0.0078
0.7297	0.7378	0.7287	0.7348	0.7366	0.7304	0.0081	0.0094	0.0086	0.0122	0.0108	0.0067
0.7296	0.7304	0.7291	0.7341	0.7358	0.7357	0.0026	0.0075	0.0065	0.0062	0.0034	0.0130
AVERAGE	= 0.7321					AVERAGE	= 0.0084				
$R/R_t = 0.590 \ X/R_t = 0.07$ POINT NUMBER = 25											
0.7260	0.7235	0.7256	0.7264	0.7278	0.7229	0.0095	0.0063	0.0068	0.0083	0.0061	0.0077
0.7294	0.7232	0.7208	0.7293	0.7252	0.7301	0.0138	0.0059	0.0059	0.0064	0.0072	0.0158
0.7291	0.7333	0.7255	0.7276	0.7229	0.7269	0.0068	0.0095	0.0054	0.0090	0.0047	0.0085
0.7288	0.7230	0.7244	0.7254	0.7278	0.7295	0.0065	0.0043	0.0088	0.0056	0.0052	0.0070
0.7333	0.7245	0.7304	0.7323	0.7256	0.7288	0.0123	0.0053	0.0070	0.0132	0.0062	0.0095
AVERAGE	= 0.7269					AVERAGE	= 0.0078				

TABLE V. - Continued.

(11) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.547 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 26											
0.7253	0.7291	0.7243	0.7284	0.7224	0.7207	0.0087	0.0146	0.0067	0.0108	0.0059	0.0096
0.7219	0.7228	0.7195	0.7233	0.7201	0.7220	0.0076	0.0048	0.0060	0.0112	0.0050	0.0062
0.7242	0.7248	0.7190	0.7222	0.7253	0.7276	0.0100	0.0097	0.0051	0.0045	0.0138	0.0104
0.7247	0.7231	0.7166	0.7239	0.7217	0.7238	0.0081	0.0078	0.0039	0.0065	0.0069	0.0042
0.7253	0.7285	0.7238	0.7265	0.7211	0.7254	0.0026	0.0135	0.0077	0.0117	0.0038	0.0082
AVERAGE	= 0.7235					AVERAGE = 0.0078					
$R/R_t = 0.505 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 27											
0.7221	0.7191	0.7218	0.7199	0.7197	0.7215	0.0093	0.0076	0.0062	0.0061	0.0069	0.0073
0.7168	0.7172	0.7222	0.7198	0.7244	0.7261	0.0057	0.0061	0.0051	0.0095	0.0108	0.0051
0.7167	0.7213	0.7193	0.7205	0.7213	0.7216	0.0051	0.0092	0.0077	0.0089	0.0023	0.0062
0.7176	0.7249	0.7144	0.7194	0.7171	0.7167	0.0068	0.0074	0.0041	0.0055	0.0066	0.0056
0.7226	0.7179	0.7253	0.7222	0.7153	0.7178	0.0116	0.0066	0.0074	0.0038	0.0041	0.0058
AVERAGE	= 0.7202					AVERAGE = 0.0068					
$R/R_t = 0.464 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 28											
0.7202	0.7211	0.7235	0.7179	0.7320	0.7382	0.0146	0.0147	0.0144	0.0112	0.0255	0.0343
0.7229	0.7238	0.7327	0.7170	0.7151	0.7322	0.0210	0.0209	0.0281	0.0098	0.0106	0.0286
0.7239	0.7143	0.7205	0.7225	0.7348	0.7162	0.0167	0.0069	0.0152	0.0183	0.0276	0.0091
0.7239	0.7303	0.7241	0.7257	0.7272	0.7219	0.0144	0.0217	0.0180	0.0211	0.0185	0.0167
0.7180	0.7281	0.7105	0.7475	0.7239	0.7221	0.0089	0.0185	0.0014	0.0394	0.0135	0.0122
AVERAGE	= 0.7243					AVERAGE = 0.0169					

(12) Inlet velocity for powered operation: nominal $X/R_t = 0.07; A_T = 338.54 \text{ m/s} (1110.7 \text{ ft/s}); \beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.550 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 8											
0.7096	0.7084	0.7123	0.7145	0.7126	0.7133	0.0051	0.0062	0.0061	0.0082	0.0056	0.0008
0.7154	0.7132	0.7139	0.7132	0.7084	0.7106	0.0074	0.0057	0.0028	0.0086	0.0018	0.0050
0.7090	0.7096	0.7135	0.7078	0.7089	0.7033	0.0085	0.0071	0.0075	0.0021	0.0027	-0.0005
0.7077	0.7025	0.7066	0.7113	0.7114	0.7115	0.0077	0.0025	0.0045	0.0077	0.0068	0.0060
0.7106	0.7059	0.7103	0.7123	0.7076	0.7134	0.0050	-0.0003	0.0035	0.0064	0.0009	0.0041
AVERAGE	= 0.7104					AVERAGE = 0.0050					
$R/R_t = 0.510 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 9											
0.7062	0.7063	0.7099	0.7085	0.7096	0.7089	0.0040	0.0027	0.0069	0.0023	0.0065	0.0056
0.7069	0.7083	0.7059	0.7110	0.7085	0.7052	0.0070	0.0076	0.0030	0.0064	0.0033	0.0010
0.7077	0.7082	0.7069	0.7016	0.7032	0.7055	0.0052	0.0066	0.0065	0.0015	0.0038	0.0060
0.7044	0.7072	0.7025	0.7071	0.7060	0.7062	0.0065	0.0043	0.0066	0.0059	0.0083	0.0061
0.7058	0.7051	0.7062	0.7055	0.7110	0.7122	0.0084	0.0056	0.0097	0.0057	0.0055	0.0085
AVERAGE	= 0.7069					AVERAGE = 0.0055					
$R/R_t = 0.470 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 10											
0.7051	0.7053	0.7063	0.7029	0.7057	0.7045	0.0061	0.0075	0.0062	0.0076	0.0044	0.0052
0.7034	0.7050	0.7069	0.7038	0.7062	0.7041	0.0044	0.0048	0.0051	0.0050	0.0053	0.0066
0.7058	0.7040	0.7040	0.7029	0.7058	0.7005	0.0068	0.0086	0.0060	0.0077	0.0087	0.0056
0.7027	0.7021	0.7024	0.7000	0.7044	0.7046	0.0052	0.0064	0.0079	0.0068	0.0095	0.0060
0.7064	0.7062	0.7061	0.7025	0.7035	0.7024	0.0060	0.0083	0.0038	0.0039	0.0056	0.0014
AVERAGE	= 0.7042					AVERAGE = 0.0062					
$R/R_t = 0.421 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 11											
0.7000	0.6991	0.7002	0.6991	0.7017	0.7007	0.0060	0.0052	0.0072	0.0068	0.0055	0.0048
0.6969	0.6962	0.7041	0.7015	0.6994	0.6983	0.0041	0.0041	0.0038	0.0050	0.0062	0.0051
0.7052	0.6969	0.6987	0.7020	0.7010	0.6992	0.0032	0.0068	0.0053	0.0074	0.0058	0.0050
0.6967	0.6960	0.6967	0.6983	0.6983	0.6975	0.0041	0.0095	0.0062	0.0058	0.0050	0.0062
0.6987	0.6998	0.7003	0.6969	0.6990	0.6991	0.0057	0.0062	0.0070	0.0070	0.0074	0.0075
AVERAGE	= 0.6992					AVERAGE = 0.0059					
$R/R_t = 0.380 \quad X/R_t = 0.07 \quad$ POINT NUMBER = 12											
0.6935	0.6933	0.6928	0.6961	0.6906	0.6969	0.0085	0.0092	0.0065	0.0041	0.0060	0.0066
0.6958	0.6934	0.6954	0.6905	0.6938	0.6918	0.0060	0.0059	0.0081	0.0056	0.0064	0.0053
0.6897	0.6925	0.6888	0.6893	0.6920	0.6900	0.0093	0.0096	0.0073	0.0048	0.0071	0.0053
0.6912	0.6904	0.6884	0.6885	0.6897	0.6870	0.0081	0.0099	0.0095	0.0074	0.0086	0.0010
0.6882	0.6908	0.6907	0.6926	0.6951	0.6955	0.0084	0.0062	0.0050	0.0077	0.0059	0.0074
AVERAGE	= 0.6918					AVERAGE = 0.0069					

TABLE V. - Continued.

(12) Concluded.

AXIAL VELOCITY

TANGENTIAL VELOCITY

R/R _t = 0.340 X/R _t = 0.08 POINT NUMBER = 13						R/R _t = 0.340 X/R _t = 0.08 POINT NUMBER = 13					
0.6852	0.6829	0.6869	0.6880	0.6846	0.6845	0.0066	0.0086	0.0081	0.0082	0.0082	0.0081
0.6871	0.6915	0.6859	0.6872	0.6832	0.6889	0.0081	0.0079	0.0062	0.0071	0.0059	0.0072
0.6838	0.6888	0.6849	0.6890	0.6842	0.6850	0.0070	0.0074	0.0080	0.0041	0.0073	0.0050
0.6850	0.6830	0.6834	0.6853	0.6840	0.6864	0.0081	0.0053	0.0086	0.0047	0.0106	0.0044
0.6827	0.6861	0.6896	0.6882	0.6871	0.6870	0.0073	0.0105	0.0072	0.0081	0.0074	0.0104
AVERAGE	= 0.6861					AVERAGE	= 0.0074				
R/R _t = 0.300 X/R _t = 0.08 POINT NUMBER = 14						R/R _t = 0.300 X/R _t = 0.08 POINT NUMBER = 14					
0.6841	0.6805	0.6780	0.6811	0.6818	0.6834	0.0098	0.0097	0.0088	0.0103	0.0086	0.0086
0.6805	0.6826	0.6821	0.6823	0.6826	0.6788	0.0111	0.0126	0.0119	0.0144	0.0111	0.0113
0.6780	0.6834	0.6809	0.6807	0.6806	0.6790	0.0122	0.0112	0.0077	0.0103	0.0100	0.0143
0.6840	0.6820	0.6785	0.6822	0.6798	0.6841	0.0109	0.0138	0.0104	0.0115	0.0139	0.0093
0.6782	0.6790	0.6806	0.6763	0.6776	0.6802	0.0086	0.0139	0.0128	0.0077	0.0142	0.0106
AVERAGE	= 0.6807					AVERAGE	= 0.0110				
R/R _t = 0.270 X/R _t = 0.08 POINT NUMBER = 15						R/R _t = 0.270 X/R _t = 0.08 POINT NUMBER = 15					
0.6803	0.6752	0.6800	0.6797	0.6780	0.6789	0.0158	0.0188	0.0139	0.0140	0.0110	0.0119
0.6857	0.6753	0.6782	0.6834	0.6811	0.6769	0.0080	0.0146	0.0179	0.0102	0.0119	0.0122
0.6798	0.6792	0.6792	0.6775	0.6764	0.6761	0.0142	0.0182	0.0143	0.0181	0.0134	0.0148
0.6798	0.6782	0.6774	0.6770	0.6771	0.6805	0.0150	0.0134	0.0140	0.0151	0.0118	0.0153
0.6776	0.6759	0.6826	0.6839	0.6792	0.6791	0.0204	0.0156	0.0100	0.0135	0.0139	0.0151
AVERAGE	= 0.6789					AVERAGE	= 0.0142				

(13) Inlet velocity for powered operation: nominal X/R_t = 0.08; A_T = 342.41 m/s (1123.4 ft/s); β_{3/4} = 60.9°.

AXIAL VELOCITY

RADIAL VELOCITY

R/R _t = 0.250 X/R _t = 0.08 POINT NUMBER = 1						R/R _t = 0.250 X/R _t = 0.08 POINT NUMBER = 1					
0.6822	0.6858	0.6849	0.6801	0.6762	0.6844	0.0531	0.0509	0.0539	0.0520	0.0587	0.0540
0.6848	0.6785	0.6734	0.6796	0.6786	0.6765	0.0535	0.0564	0.0527	0.0544	0.0551	0.0562
0.6831	0.6789	0.6813	0.6813	0.6844	0.6787	0.0511	0.0551	0.0535	0.0498	0.0550	0.0502
0.6846	0.6843	0.6851	0.6824	0.6825	0.6810	0.0482	0.0485	0.0474	0.0534	0.0479	0.0490
0.6798	0.6826	0.6856	0.6760	0.6876	0.6834	0.0544	0.0507	0.0490	0.0574	0.0513	0.0502
AVERAGE	= 0.6817					AVERAGE	= 0.0523				
R/R _t = 0.290 X/R _t = 0.08 POINT NUMBER = 2						R/R _t = 0.290 X/R _t = 0.08 POINT NUMBER = 2					
0.6994	0.6978	0.6941	0.6936	0.6941	0.6958	0.0432	0.0478	0.0468	0.0450	0.0458	0.0467
0.6968	0.6925	0.6921	0.6934	0.6958	0.6941	0.0423	0.0483	0.0458	0.0452	0.0412	0.0489
0.6943	0.6915	0.6917	0.6943	0.6973	0.6963	0.0428	0.0476	0.0459	0.0441	0.0465	0.0401
0.6925	0.6960	0.6910	0.6964	0.6965	0.6973	0.0399	0.0454	0.0432	0.0443	0.0470	0.0432
0.6935	0.6949	0.6950	0.6942	0.6959	0.6986	0.0472	0.0458	0.0463	0.0465	0.0449	0.0479
AVERAGE	= 0.6949					AVERAGE	= 0.0453				
R/R _t = 0.330 X/R _t = 0.08 POINT NUMBER = 4						R/R _t = 0.330 X/R _t = 0.08 POINT NUMBER = 4					
0.6980	0.6973	0.6970	0.7026	0.6997	0.7016	0.0445	0.0450	0.0479	0.0450	0.0498	0.0426
0.6995	0.7042	0.6997	0.7013	0.6973	0.7051	0.0456	0.0413	0.0417	0.0453	0.0470	0.0424
0.6994	0.7084	0.7009	0.6955	0.6973	0.6984	0.0437	0.0374	0.0418	0.0456	0.0439	0.0405
0.7026	0.6958	0.6988	0.7007	0.7015	0.6987	0.0428	0.0454	0.0444	0.0444	0.0428	0.0442
0.7063	0.7023	0.6995	0.7028	0.7006	0.7027	0.0435	0.0464	0.0399	0.0437	0.0460	0.0440
AVERAGE	= 0.7005					AVERAGE	= 0.0440				
R/R _t = 0.370 X/R _t = 0.08 POINT NUMBER = 5						R/R _t = 0.370 X/R _t = 0.08 POINT NUMBER = 5					
0.7103	0.7118	0.7047	0.7102	0.7100	0.7034	0.0402	0.0397	0.0409	0.0409	0.0395	0.0442
0.7109	0.7045	0.7081	0.7103	0.7092	0.7043	0.0347	0.0393	0.0396	0.0372	0.0407	0.0401
0.7013	0.7065	0.7047	0.7012	0.7007	0.7070	0.0377	0.0361	0.0403	0.0442	0.0422	0.0403
0.7069	0.7126	0.7090	0.7046	0.7079	0.7076	0.0434	0.0385	0.0361	0.0429	0.0389	0.0402
0.7121	0.7046	0.7095	0.7054	0.7107	0.7064	0.0356	0.0441	0.0438	0.0393	0.0393	0.0432
AVERAGE	= 0.7071					AVERAGE	= 0.0401				
R/R _t = 0.410 X/R _t = 0.08 POINT NUMBER = 7						R/R _t = 0.410 X/R _t = 0.08 POINT NUMBER = 7					
0.7038	0.7076	0.7092	0.7079	0.7125	0.7073	0.0449	0.0393	0.0395	0.0379	0.0412	0.0382
0.7079	0.7098	0.7110	0.7037	0.7044	0.7099	0.0420	0.0407	0.0412	0.0437	0.0412	0.0381
0.7146	0.7130	0.7074	0.7096	0.7103	0.7083	0.0388	0.0377	0.0404	0.0377	0.0349	0.0393
0.7111	0.7095	0.7159	0.7127	0.7035	0.7158	0.0372	0.0397	0.0355	0.0345	0.0452	0.0360
0.7075	0.7117	0.7138	0.7099	0.7102	0.7112	0.0438	0.0423	0.0387	0.0391	0.0368	0.0434
AVERAGE	= 0.7097					AVERAGE	= 0.0396				

TABLE V. - Continued.

(13) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.490 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 9											
0.7085	0.7068	0.7054	0.7058	0.7070	0.7063	0.0475	0.0442	0.0452	0.0444	0.0482	0.0480
0.7077	0.7046	0.7026	0.7050	0.7086	0.7087	0.0429	0.0462	0.0488	0.0450	0.0458	0.0455
0.7050	0.7024	0.7088	0.7066	0.7108	0.7062	0.0449	0.0474	0.0445	0.0437	0.0424	0.0446
0.7092	0.7053	0.7099	0.7143	0.7117	0.7076	0.0411	0.0485	0.0459	0.0449	0.0409	0.0450
0.7098	0.7092	0.7103	0.7102	0.7095	0.7057	0.0435	0.0466	0.0473	0.0450	0.0485	0.0468
AVERAGE = 0.7076						AVERAGE = 0.0455					
$R/R_t = 0.450 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 10											
0.7030	0.7029	0.7042	0.6982	0.7037	0.6989	0.0486	0.0488	0.0475	0.0469	0.0462	0.0515
0.6948	0.7005	0.7019	0.6982	0.6995	0.7046	0.0476	0.0496	0.0488	0.0505	0.0478	0.0501
0.7006	0.7025	0.7013	0.7014	0.7010	0.7009	0.0466	0.0475	0.0490	0.0500	0.0486	0.0489
0.7070	0.7079	0.6989	0.7058	0.7036	0.7057	0.0431	0.0439	0.0488	0.0498	0.0496	0.0515
0.7051	0.7046	0.7038	0.7058	0.7014	0.7046	0.0445	0.0500	0.0503	0.0498	0.0462	0.0507
AVERAGE = 0.7024						AVERAGE = 0.0485					
$R/R_t = 0.410 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 11											
0.6928	0.6942	0.6940	0.6947	0.6949	0.6925	0.0535	0.0565	0.0524	0.0555	0.0528	0.0562
0.6908	0.6892	0.6945	0.6868	0.6949	0.6912	0.0565	0.0571	0.0563	0.0546	0.0550	0.0550
0.6960	0.6937	0.6938	0.6942	0.6929	0.6940	0.0589	0.0501	0.0532	0.0483	0.0556	0.0539
0.6971	0.6937	0.6949	0.6933	0.6979	0.6961	0.0505	0.0547	0.0554	0.0535	0.0538	0.0539
0.6976	0.6946	0.6942	0.6959	0.6965	0.6943	0.0571	0.0555	0.0514	0.0563	0.0530	0.0531
AVERAGE = 0.6940						AVERAGE = 0.0543					
$R/R_t = 0.370 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 13											
0.6906	0.6916	0.6900	0.6941	0.6860	0.6883	0.0563	0.0543	0.0580	0.0557	0.0588	0.0602
0.6876	0.6889	0.6858	0.6844	0.6886	0.6860	0.0503	0.0573	0.0555	0.0577	0.0549	0.0577
0.6885	0.6880	0.6843	0.6906	0.6890	0.6879	0.0557	0.0589	0.0563	0.0562	0.0503	0.0563
0.6911	0.6904	0.6908	0.6853	0.6941	0.6901	0.0541	0.0558	0.0545	0.0589	0.0498	0.0567
0.6894	0.6888	0.6932	0.6869	0.6910	0.6959	0.0555	0.0599	0.0536	0.0604	0.0537	0.0518
AVERAGE = 0.6892						AVERAGE = 0.0560					
$R/R_t = 0.330 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 14											
0.6835	0.6795	0.6780	0.6864	0.6783	0.6807	0.0597	0.0635	0.0649	0.0588	0.0625	0.0626
0.6786	0.6795	0.6810	0.6802	0.6812	0.6831	0.0624	0.0627	0.0649	0.0613	0.0610	0.0579
0.6817	0.6790	0.6795	0.6739	0.6803	0.6805	0.0603	0.0628	0.0622	0.0651	0.0594	0.0624
0.6832	0.6809	0.6835	0.6840	0.6804	0.6798	0.0581	0.0592	0.0571	0.0588	0.0608	0.0619
0.6804	0.6835	0.6824	0.6854	0.6844	0.6844	0.0591	0.0604	0.0607	0.0617	0.0612	0.0595
AVERAGE = 0.6812						AVERAGE = 0.0610					
$R/R_t = 0.330 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 15											
0.6821	0.6790	0.6826	0.6821	0.6835	0.6786	0.0616	0.0639	0.0630	0.0585	0.0613	0.0635
0.6841	0.6784	0.6804	0.6808	0.6838	0.6801	0.0623	0.0596	0.0624	0.0617	0.0577	0.0582
0.6799	0.6785	0.6816	0.6816	0.6818	0.6798	0.0604	0.0620	0.0537	0.0591	0.0602	0.0575
0.6819	0.6811	0.6832	0.6835	0.6856	0.6821	0.0588	0.0591	0.0585	0.0567	0.0620	0.0556
0.6881	0.6788	0.6817	0.6811	0.6787	0.6806	0.0596	0.0626	0.0623	0.0620	0.0626	0.0623
AVERAGE = 0.6813						AVERAGE = 0.0604					
$R/R_t = 0.250 \quad X/R_t = 0.08 \quad$ POINT NUMBER = 16											
0.6628	0.6738	0.6633	0.6645	0.6701	0.6646	0.0658	0.0583	0.0672	0.0725	0.0610	0.0691
0.6695	0.6683	0.6678	0.6626	0.6641	0.6652	0.0668	0.0667	0.0673	0.0685	0.0691	0.0628
0.6647	0.6592	0.6660	0.6685	0.6655	0.6618	0.0669	0.0704	0.0654	0.0652	0.0652	0.0677
0.6632	0.6677	0.6639	0.6722	0.6533	0.6655	0.0698	0.0669	0.0669	0.0622	0.0736	0.0651
0.6701	0.6644	0.6624	0.6657	0.6671	0.6645	0.0640	0.0668	0.0728	0.0674	0.0655	0.0675
AVERAGE = 0.6652						AVERAGE = 0.0669					

TABLE V. - Continued.

(14) Inlet velocity for powered operation: nominal $X/R_t = 0.09$; $A_T = 344.24 \text{ m/s}$ (1129.4 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.130 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 34$											
0.6186	0.6184	0.6148	0.6001	0.6086	0.6124	0.0891	0.0856	0.0916	0.0999	0.0981	0.0936
0.6175	0.6099	0.6166	0.6101	0.6088	0.6120	0.0905	0.0979	0.0931	0.0949	0.0993	0.0970
0.6080	0.6187	0.6098	0.6041	0.6122	0.6076	0.0975	0.0940	0.0932	0.0948	0.0933	0.0993
0.6086	0.6096	0.6113	0.6112	0.6136	0.6121	0.0969	0.0927	0.0952	0.0978	0.0900	0.0952
0.6202	0.6175	0.6101	0.6275	0.6091	0.6154	0.0896	0.0884	0.0966	0.0800	0.0978	0.0973
AVERAGE = 0.6131						AVERAGE = 0.0942					
$R/R_t = 0.130 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 35$											
0.6125	0.6176	0.6131	0.6116	0.6054	0.6109	0.0939	0.0873	0.0958	0.0928	0.1006	0.0913
0.6101	0.6168	0.6079	0.6080	0.6088	0.6121	0.0963	0.0896	0.1000	0.0976	0.0949	0.0948
0.6196	0.6037	0.6078	0.6086	0.6072	0.6094	0.0936	0.0971	0.1022	0.1022	0.1020	0.0974
0.6121	0.6133	0.6164	0.6147	0.6166	0.6148	0.1033	0.0909	0.0958	0.0952	0.0934	0.0905
0.6194	0.6134	0.6077	0.6180	0.6228	0.6217	0.0899	0.0916	0.0971	0.0925	0.0874	0.0907
AVERAGE = 0.6129						AVERAGE = 0.0949					
$R/R_t = 0.170 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 1$											
0.5994	0.6015	0.6005	0.5945	0.6039	0.6003	0.1088	0.1089	0.1171	0.1102	0.1090	0.1094
0.6027	0.5998	0.5975	0.5992	0.5936	0.5929	0.1124	0.1095	0.1102	0.1140	0.1211	0.1154
0.5978	0.5958	0.6008	0.5988	0.5978	0.5980	0.1077	0.1217	0.1111	0.1174	0.1088	0.1146
0.5988	0.5959	0.6009	0.6057	0.5984	0.6038	0.1097	0.1122	0.1133	0.1068	0.1099	0.1103
0.6030	0.5933	0.5966	0.6024	0.5954	0.5990	0.1094	0.1106	0.1204	0.1063	0.1153	0.1105
AVERAGE = 0.5989						AVERAGE = 0.1120					
$R/R_t = 0.210 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 2$											
0.6387	0.6437	0.6499	0.6281	0.6351	0.6306	0.0869	0.0779	0.0774	0.0900	0.0873	0.0843
0.6416	0.6342	0.6348	0.6434	0.6322	0.6397	0.0778	0.0913	0.0832	0.0783	0.0833	0.0889
0.6382	0.6332	0.6320	0.6371	0.6270	0.6403	0.0872	0.0847	0.0908	0.0880	0.0885	0.0823
0.6342	0.6387	0.6385	0.6318	0.6410	0.6333	0.0853	0.0829	0.0856	0.0858	0.0846	0.0857
0.6329	0.6354	0.6359	0.6340	0.6364	0.6355	0.0884	0.0883	0.0855	0.0825	0.0815	0.0825
AVERAGE = 0.6361						AVERAGE = 0.0848					
$R/R_t = 0.250 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 3$											
0.6464	0.6468	0.6473	0.6511	0.6519	0.6504	0.0824	0.0744	0.0808	0.0790	0.0769	0.0822
0.6472	0.6475	0.6521	0.6479	0.6470	0.6552	0.0761	0.0762	0.0716	0.0746	0.0774	0.0753
0.6482	0.6524	0.6507	0.6480	0.6514	0.6500	0.0776	0.0764	0.0777	0.0791	0.0739	0.0762
0.6516	0.6489	0.6461	0.6546	0.6430	0.6588	0.0815	0.0693	0.0775	0.0739	0.0783	0.0779
0.6542	0.6491	0.6510	0.6431	0.6567	0.6464	0.0783	0.0823	0.0746	0.0773	0.0747	0.0788
AVERAGE = 0.6498						AVERAGE = 0.0770					
$R/R_t = 0.300 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 4$											
0.6634	0.6630	0.6619	0.6630	0.6649	0.6650	0.0697	0.0729	0.0707	0.0737	0.0638	0.0621
0.6678	0.6654	0.6713	0.6650	0.6643	0.6684	0.0680	0.0680	0.0663	0.0687	0.0676	0.0692
0.6685	0.6647	0.6648	0.6631	0.6685	0.6678	0.0744	0.0699	0.0675	0.0642	0.0576	0.0700
0.6641	0.6618	0.6619	0.6680	0.6650	0.6668	0.0668	0.0683	0.0720	0.0663	0.0693	0.0686
0.6649	0.6611	0.6646	0.6620	0.6588	0.6645	0.0660	0.0732	0.0681	0.0695	0.0725	0.0699
AVERAGE = 0.6649						AVERAGE = 0.0685					
$R/R_t = 0.340 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 6$											
0.6818	0.6803	0.6817	0.6883	0.6831	0.6799	0.0539	0.0549	0.0510	0.0498	0.0518	0.0522
0.6888	0.6807	0.6843	0.6831	0.6863	0.6860	0.0491	0.0536	0.0507	0.0513	0.0515	0.0501
0.6829	0.6820	0.6807	0.6953	0.6922	0.6798	0.0533	0.0550	0.0554	0.0507	0.0488	0.0507
0.6853	0.6847	0.6800	0.6849	0.6823	0.6801	0.0521	0.0515	0.0538	0.0507	0.0551	0.0558
0.6881	0.6859	0.6798	0.6813	0.6890	0.6800	0.0513	0.0521	0.0523	0.0521	0.0487	0.0533
AVERAGE = 0.6843						AVERAGE = 0.0522					
$R/R_t = 0.380 \quad X/R_t = 0.09 \quad \text{POINT NUMBER} = 7$											
0.6892	0.6916	0.6903	0.6938	0.6904	0.6905	0.0502	0.0477	0.0480	0.0461	0.0479	0.0554
0.6882	0.6891	0.6859	0.6890	0.6881	0.6926	0.0537	0.0500	0.0522	0.0515	0.0508	0.0497
0.6934	0.6896	0.6888	0.6935	0.6935	0.6850	0.0483	0.0507	0.0533	0.0454	0.0475	0.0503
0.6892	0.6870	0.6917	0.6880	0.6897	0.6915	0.0487	0.0505	0.0470	0.0486	0.0477	0.0466
0.6901	0.6879	0.6906	0.6850	0.6929	0.6883	0.0482	0.0482	0.0489	0.0512	0.0487	0.0480
AVERAGE = 0.6897						AVERAGE = 0.0494					

TABLE V. - Continued.

(14) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.420 \quad X/R_t = 0.09$ POINT NUMBER = 8											
0.7002	0.6960	0.6959	0.6958	0.6992	0.7000	0.0430	0.0458	0.0413	0.0483	0.0467	0.0413
0.6977	0.6974	0.6993	0.7004	0.7004	0.6981	0.0441	0.0432	0.0452	0.0430	0.0416	0.0459
0.6966	0.7013	0.6996	0.7005	0.7029	0.6983	0.0434	0.0422	0.0444	0.0411	0.0430	0.0454
0.7020	0.7046	0.6992	0.7005	0.7046	0.6967	0.0421	0.0419	0.0452	0.0422	0.0418	0.0491
0.6990	0.6945	0.6956	0.6967	0.6882	0.6929	0.0437	0.0483	0.0455	0.0489	0.0476	0.0465
AVERAGE = 0.6983						AVERAGE = 0.0445					
$R/R_t = 0.460 \quad X/R_t = 0.09$ POINT NUMBER = 9											
0.6946	0.7044	0.7019	0.7044	0.7049	0.7079	0.0475	0.0427	0.0451	0.0427	0.0443	0.0364
0.7051	0.7083	0.7056	0.7042	0.7038	0.6990	0.0438	0.0392	0.0394	0.0437	0.0403	0.0415
0.7063	0.7022	0.7082	0.7055	0.7052	0.7063	0.0434	0.0426	0.0429	0.0415	0.0408	0.0416
0.7056	0.7070	0.7029	0.7071	0.7005	0.7031	0.0390	0.0397	0.0461	0.0398	0.0445	0.0421
0.7032	0.7018	0.7055	0.6994	0.7106	0.7003	0.0425	0.0420	0.0419	0.0443	0.0407	0.0431
AVERAGE = 0.7041						AVERAGE = 0.0421					
$R/R_t = 0.510 \quad X/R_t = 0.09$ POINT NUMBER = 10											
0.7144	0.7115	0.7119	0.7123	0.7102	0.7063	0.0379	0.0393	0.0393	0.0366	0.0394	0.0394
0.7106	0.7125	0.7083	0.7112	0.7096	0.7125	0.0367	0.0383	0.0410	0.0390	0.0391	0.0418
0.7090	0.7128	0.7068	0.7107	0.7117	0.7111	0.0390	0.0397	0.0417	0.0375	0.0359	0.0367
0.7156	0.7100	0.7145	0.7108	0.7123	0.7175	0.0387	0.0402	0.0373	0.0368	0.0385	0.0373
0.7103	0.7180	0.7117	0.7099	0.7059	0.7106	0.0398	0.0356	0.0395	0.0383	0.0398	0.0377
AVERAGE = 0.7114						AVERAGE = 0.0385					
$R/R_t = 0.550 \quad X/R_t = 0.09$ POINT NUMBER = 11											
0.7093	0.7070	0.7096	0.7109	0.7059	0.7069	0.0442	0.0452	0.0425	0.0399	0.0380	0.0417
0.7111	0.7077	0.7112	0.7116	0.7164	0.7135	0.0397	0.0413	0.0422	0.0399	0.0375	0.0406
0.7142	0.7147	0.7152	0.7129	0.7129	0.7146	0.0382	0.0372	0.0385	0.0368	0.0372	0.0374
0.7126	0.7064	0.7117	0.7127	0.7126	0.7129	0.0386	0.0418	0.0397	0.0418	0.0415	0.0434
0.7123	0.7132	0.7125	0.7098	0.7135	0.7159	0.0403	0.0400	0.0406	0.0382	0.0396	0.0385
AVERAGE = 0.7118						AVERAGE = 0.0401					
$R/R_t = 0.590 \quad X/R_t = 0.09$ POINT NUMBER = 12											
0.7176	0.7183	0.7152	0.7160	0.7158	0.7166	0.0366	0.0353	0.0365	0.0331	0.0381	0.0374
0.7139	0.7150	0.7150	0.7185	0.7195	0.7170	0.0375	0.0374	0.0368	0.0357	0.0354	0.0365
0.7176	0.7194	0.7168	0.7195	0.7177	0.7163	0.0370	0.0367	0.0366	0.0325	0.0367	0.0375
0.7188	0.7205	0.7147	0.7211	0.7189	0.7220	0.0362	0.0343	0.0384	0.0318	0.0370	0.0340
0.7219	0.7207	0.7175	0.7186	0.7183	0.7135	0.0342	0.0332	0.0328	0.0352	0.0374	0.0385
AVERAGE = 0.7178						AVERAGE = 0.0358					
$R/R_t = 0.640 \quad X/R_t = 0.09$ POINT NUMBER = 13											
0.7237	0.7184	0.7157	0.7165	0.7213	0.7185	0.0319	0.0347	0.0378	0.0336	0.0332	0.0328
0.7192	0.7171	0.7163	0.7172	0.7193	0.7220	0.0295	0.0323	0.0344	0.0336	0.0350	0.0352
0.7188	0.7192	0.7173	0.7210	0.7217	0.7185	0.0336	0.0353	0.0352	0.0320	0.0332	0.0367
0.7226	0.7209	0.7222	0.7238	0.7230	0.7230	0.0352	0.0340	0.0330	0.0302	0.0324	0.0363
0.7235	0.7211	0.7191	0.7196	0.7199	0.7182	0.0339	0.0325	0.0340	0.0313	0.0343	0.0365
AVERAGE = 0.7201						AVERAGE = 0.0337					
$R/R_t = 0.640 \quad X/R_t = 0.09$ POINT NUMBER = 14											
0.7241	0.7203	0.7201	0.7206	0.7178	0.7179	0.0368	0.0340	0.0359	0.0344	0.0355	0.0340
0.7177	0.7219	0.7128	0.7183	0.7188	0.7161	0.0344	0.0351	0.0341	0.0341	0.0327	0.0362
0.7236	0.7203	0.7235	0.7234	0.7233	0.7224	0.0353	0.0355	0.0336	0.0338	0.0334	0.0302
0.7255	0.7213	0.7221	0.7253	0.7245	0.7227	0.0362	0.0315	0.0329	0.0316	0.0338	0.0330
0.7225	0.7243	0.7228	0.7244	0.7237	0.7177	0.0322	0.0341	0.0350	0.0336	0.0344	0.0355
AVERAGE = 0.7214						AVERAGE = 0.0341					
$R/R_t = 0.680 \quad X/R_t = 0.09$ POINT NUMBER = 15											
0.7260	0.7222	0.7180	0.7260	0.7208	0.7256	0.0330	0.0324	0.0381	0.0336	0.0335	0.0329
0.7205	0.7248	0.7140	0.7259	0.7256	0.7252	0.0352	0.0305	0.0366	0.0312	0.0305	0.0330
0.7271	0.7212	0.7242	0.7237	0.7250	0.7246	0.0310	0.0339	0.0318	0.0337	0.0317	0.0314
0.7286	0.7237	0.7291	0.7268	0.7242	0.7249	0.0320	0.0352	0.0307	0.0336	0.0321	0.0313
0.7248	0.7276	0.7265	0.7264	0.7248	0.7234	0.0311	0.0298	0.0336	0.0327	0.0330	0.0342
AVERAGE = 0.7248						AVERAGE = 0.0324					

TABLE V. - Continued

(14) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.720 \quad X/R_t = 0.09$ POINT NUMBER = 16											
0.7270	0.7239	0.7272	0.7258	0.7234	0.7263	0.0288	0.0278	0.0300	0.0320	0.0318	0.0305
0.7274	0.7187	0.7262	0.7309	0.7253	0.7253	0.0338	0.0371	0.0350	0.0301	0.0312	0.0314
0.7299	0.7267	0.7241	0.7268	0.7275	0.7261	0.0311	0.0316	0.0344	0.0356	0.0306	0.0321
0.7308	0.7260	0.7291	0.7307	0.7291	0.7319	0.0302	0.0317	0.0325	0.0295	0.0296	0.0273
0.7321	0.7268	0.7283	0.7238	0.7281	0.7256	0.0290	0.0283	0.0313	0.0331	0.0316	0.0321
AVERAGE = 0.7271						AVERAGE = 0.0313					
$R/R_t = 0.780 \quad X/R_t = 0.09$ POINT NUMBER = 17											
0.7276	0.7291	0.7286	0.7290	0.7257	0.7293	0.0328	0.0326	0.0322	0.0323	0.0320	0.0302
0.7254	0.7260	0.7243	0.7259	0.7291	0.7279	0.0347	0.0317	0.0322	0.0316	0.0315	0.0309
0.7299	0.7322	0.7307	0.7325	0.7299	0.7317	0.0298	0.0318	0.0311	0.0330	0.0320	0.0317
0.7331	0.7376	0.7282	0.7317	0.7329	0.7304	0.0301	0.0264	0.0292	0.0303	0.0275	0.0300
0.7314	0.7305	0.7326	0.7299	0.7297	0.7293	0.0312	0.0313	0.0305	0.0308	0.0318	0.0344
AVERAGE = 0.7297						AVERAGE = 0.0313					
$R/R_t = 0.810 \quad X/R_t = 0.09$ POINT NUMBER = 18											
0.7315	0.7324	0.7319	0.7332	0.7306	0.7305	0.0292	0.0297	0.0313	0.0311	0.0290	0.0275
0.7312	0.7302	0.7307	0.7318	0.7312	0.7298	0.0301	0.0320	0.0298	0.0279	0.0309	0.0297
0.7319	0.7283	0.7312	0.7334	0.7333	0.7297	0.0305	0.0314	0.0319	0.0298	0.0280	0.0334
0.7341	0.7326	0.7340	0.7340	0.7335	0.7333	0.0281	0.0290	0.0310	0.0299	0.0296	0.0298
0.7340	0.7322	0.7331	0.7299	0.7324	0.7341	0.0305	0.0290	0.0275	0.0298	0.0311	0.0302
AVERAGE = 0.7320						AVERAGE = 0.0299					
$R/R_t = 0.860 \quad X/R_t = 0.09$ POINT NUMBER = 19											
0.7337	0.7334	0.7359	0.7313	0.7360	0.7358	0.0292	0.0278	0.0291	0.0295	0.0267	0.0289
0.7330	0.7340	0.7361	0.7353	0.7344	0.7335	0.0289	0.0301	0.0285	0.0313	0.0281	0.0273
0.7353	0.7341	0.7348	0.7369	0.7356	0.7354	0.0253	0.0313	0.0305	0.0259	0.0287	0.0298
0.7348	0.7368	0.7368	0.7363	0.7327	0.7372	0.0282	0.0310	0.0297	0.0304	0.0280	0.0268
0.7326	0.7365	0.7354	0.7341	0.7359	0.7352	0.0313	0.0263	0.0290	0.0311	0.0294	0.0292
AVERAGE = 0.7352						AVERAGE = 0.0293					
$R/R_t = 0.900 \quad X/R_t = 0.09$ POINT NUMBER = 20											
0.7345	0.7345	0.7345	0.7342	0.7373	0.7369	0.0280	0.0281	0.0309	0.0317	0.0278	0.0305
0.7348	0.7344	0.7351	0.7358	0.7361	0.7348	0.0294	0.0287	0.0313	0.0290	0.0284	0.0272
0.7342	0.7327	0.7398	0.7342	0.7376	0.7344	0.0313	0.0301	0.0280	0.0308	0.0304	0.0277
0.7373	0.7370	0.7322	0.7367	0.7336	0.7311	0.0297	0.0323	0.0332	0.0275	0.0296	0.0308
0.7345	0.7366	0.7324	0.7369	0.7365	0.7344	0.0282	0.0299	0.0297	0.0261	0.0284	0.0312
AVERAGE = 0.7352						AVERAGE = 0.0295					
$R/R_t = 0.950 \quad X/R_t = 0.09$ POINT NUMBER = 21											
0.7382	0.7400	0.7412	0.7344	0.7362	0.7392	0.0274	0.0271	0.0262	0.0239	0.0293	0.0289
0.7391	0.7345	0.7367	0.7375	0.7384	0.7376	0.0285	0.0277	0.0292	0.0282	0.0265	0.0282
0.7353	0.7377	0.7375	0.7381	0.7361	0.7368	0.0279	0.0280	0.0286	0.0259	0.0280	0.0279
0.7395	0.7345	0.7385	0.7366	0.7374	0.7367	0.0269	0.0297	0.0282	0.0282	0.0267	0.0272
0.7394	0.7378	0.7379	0.7369	0.7329	0.7387	0.0308	0.0286	0.0281	0.0263	0.0287	0.0286
AVERAGE = 0.7374						AVERAGE = 0.0279					
$R/R_t = 0.990 \quad X/R_t = 0.09$ POINT NUMBER = 22											
0.7419	0.7401	0.7379	0.7378	0.7398	0.7391	0.0265	0.0282	0.0281	0.0276	0.0312	0.0294
0.7330	0.7393	0.7399	0.7389	0.7367	0.7382	0.0311	0.0298	0.0285	0.0289	0.0328	0.0288
0.7366	0.7364	0.7378	0.7375	0.7382	0.7385	0.0294	0.0299	0.0284	0.0293	0.0288	0.0298
0.7383	0.7413	0.7375	0.7390	0.7385	0.7371	0.0290	0.0290	0.0264	0.0273	0.0288	0.0284
0.7364	0.7345	0.7408	0.7364	0.7407	0.7374	0.0292	0.0320	0.0276	0.0281	0.0291	0.0292
AVERAGE = 0.7382						AVERAGE = 0.0290					
$R/R_t = 1.040 \quad X/R_t = 0.09$ POINT NUMBER = 23											
0.7415	0.7415	0.7407	0.7415	0.7436	0.7404	0.0284	0.0273	0.0273	0.0277	0.0303	0.0287
0.7424	0.7398	0.7409	0.7416	0.7413	0.7413	0.0295	0.0268	0.0279	0.0282	0.0283	0.0279
0.7436	0.7384	0.7364	0.7419	0.7362	0.7416	0.0276	0.0275	0.0291	0.0259	0.0267	0.0275
0.7372	0.7392	0.7411	0.7332	0.7394	0.7382	0.0282	0.0284	0.0298	0.0279	0.0273	0.0287
0.7364	0.7414	0.7379	0.7421	0.7371	0.7393	0.0305	0.0262	0.0286	0.0270	0.0301	0.0277
AVERAGE = 0.7399						AVERAGE = 0.0282					

TABLE V. - Continued.

(14) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.040 \quad X/R_t = 0.09$						POINT NUMBER = 24					
0.7423	0.7392	0.7395	0.7392	0.7393	0.7418	0.0282	0.0290	0.0253	0.0269	0.0279	0.0267
0.7413	0.7401	0.7384	0.7415	0.7419	0.7380	0.0277	0.0293	0.0283	0.0281	0.0310	0.0305
0.7382	0.7394	0.7380	0.7391	0.7376	0.7404	0.0285	0.0275	0.0260	0.0269	0.0292	0.0290
0.7410	0.7371	0.7389	0.7333	0.7390	0.7361	0.0263	0.0293	0.0273	0.0334	0.0307	0.0316
0.7403	0.7381	0.7385	0.7409	0.7322	0.7374	0.0307	0.0270	0.0267	0.0287	0.0321	0.0260
AVERAGE = 0.7390						AVERAGE = 0.0284					
$R/R_t = 1.080 \quad X/R_t = 0.09$						POINT NUMBER = 25					
0.7423	0.7414	0.7441	0.7423	0.7425	0.7416	0.0275	0.0283	0.0277	0.0271	0.0288	0.0286
0.7404	0.7361	0.7417	0.7404	0.7362	0.7391	0.0289	0.0313	0.0273	0.0284	0.0313	0.0303
0.7387	0.7405	0.7404	0.7409	0.7392	0.7373	0.0254	0.0287	0.0284	0.0269	0.0289	0.0271
0.7390	0.7394	0.7398	0.7406	0.7404	0.7407	0.0266	0.0291	0.0305	0.0293	0.0285	0.0280
0.7414	0.7407	0.7424	0.7410	0.7402	0.7395	0.0287	0.0293	0.0269	0.0293	0.0276	0.0311
AVERAGE = 0.7403						AVERAGE = 0.0286					
$R/R_t = 1.130 \quad X/R_t = 0.09$						POINT NUMBER = 26					
0.7372	0.7409	0.7423	0.7402	0.7416	0.7393	0.0321	0.0294	0.0292	0.0298	0.0317	0.0279
0.7424	0.7424	0.7415	0.7412	0.7420	0.7413	0.0286	0.0284	0.0272	0.0278	0.0282	0.0294
0.7422	0.7398	0.7428	0.7419	0.7392	0.7428	0.0276	0.0276	0.0250	0.0300	0.0267	0.0288
0.7410	0.7412	0.7414	0.7405	0.7438	0.7393	0.0297	0.0292	0.0263	0.0292	0.0276	0.0275
0.7442	0.7422	0.7370	0.7384	0.7418	0.7409	0.0267	0.0297	0.0341	0.0288	0.0276	0.0258
AVERAGE = 0.7411						AVERAGE = 0.0286					
$R/R_t = 1.180 \quad X/R_t = 0.09$						POINT NUMBER = 27					
0.7454	0.7432	0.7423	0.7419	0.7435	0.7440	0.0267	0.0282	0.0282	0.0288	0.0274	0.0289
0.7402	0.7415	0.7420	0.7428	0.7412	0.7426	0.0289	0.0262	0.0262	0.0288	0.0275	0.0279
0.7450	0.7414	0.7417	0.7417	0.7432	0.7447	0.0269	0.0302	0.0290	0.0298	0.0286	0.0268
0.7396	0.7427	0.7415	0.7430	0.7427	0.7423	0.0292	0.0282	0.0278	0.0268	0.0279	0.0260
0.7439	0.7446	0.7430	0.7469	0.7428	0.7438	0.0278	0.0277	0.0259	0.0296	0.0286	0.0272
AVERAGE = 0.7429						AVERAGE = 0.0280					
$R/R_t = 1.230 \quad X/R_t = 0.09$						POINT NUMBER = 28					
0.7423	0.7448	0.7415	0.7434	0.7433	0.7369	0.0289	0.0284	0.0267	0.0281	0.0283	0.0309
0.7436	0.7438	0.7409	0.7436	0.7421	0.7424	0.0283	0.0275	0.0250	0.0264	0.0284	0.0286
0.7413	0.7436	0.7408	0.7449	0.7432	0.7441	0.0259	0.0254	0.0283	0.0274	0.0264	0.0261
0.7424	0.7431	0.7404	0.7446	0.7426	0.7433	0.0283	0.0259	0.0270	0.0282	0.0288	0.0291
0.7460	0.7475	0.7429	0.7426	0.7454	0.7444	0.0282	0.0263	0.0261	0.0288	0.0291	0.0270
AVERAGE = 0.7430						AVERAGE = 0.0276					
$R/R_t = 1.270 \quad X/R_t = 0.09$						POINT NUMBER = 29					
0.7457	0.7417	0.7477	0.7455	0.7469	0.7455	0.0305	0.0298	0.0280	0.0292	0.0302	0.0287
0.7428	0.7422	0.7394	0.7446	0.7437	0.7473	0.0312	0.0288	0.0304	0.0274	0.0277	0.0254
0.7430	0.7460	0.7452	0.7452	0.7477	0.7465	0.0277	0.0303	0.0264	0.0270	0.0305	0.0269
0.7449	0.7424	0.7422	0.7469	0.7440	0.7446	0.0292	0.0328	0.0290	0.0287	0.0279	0.0279
0.7423	0.7459	0.7435	0.7472	0.7426	0.7469	0.0334	0.0291	0.0278	0.0328	0.0287	0.0277
AVERAGE = 0.7446						AVERAGE = 0.0291					
$R/R_t = 1.320 \quad X/R_t = 0.09$						POINT NUMBER = 30					
0.7418	0.7427	0.7415	0.7458	0.7432	0.7438	0.0276	0.0269	0.0318	0.0317	0.0293	0.0298
0.7428	0.7449	0.7438	0.7423	0.7444	0.7422	0.0291	0.0298	0.0285	0.0290	0.0277	0.0275
0.7441	0.7448	0.7447	0.7490	0.7477	0.7444	0.0302	0.0339	0.0280	0.0282	0.0336	0.0316
0.7438	0.7439	0.7472	0.7461	0.7400	0.7486	0.0268	0.0282	0.0274	0.0280	0.0325	0.0305
0.7417	0.7440	0.7446	0.7423	0.7446	0.7471	0.0313	0.0352	0.0328	0.0280	0.0305	0.0298
AVERAGE = 0.7442						AVERAGE = 0.0298					

TABLE V. - Continued.

(15) Inlet velocity for powered operation: nominal $X/R_t = 0.08$; $A_T = 342.41 \text{ m/s}$ (1123.4 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.650$ $X/R_t = 0.09$ POINT NUMBER = 1											
0.7220	0.7289	0.7240	0.7211	0.7220	0.7252	0.0323	0.0297	0.0319	0.0350	0.0305	0.0320
0.7249	0.7273	0.7229	0.7257	0.7233	0.7216	0.0348	0.0317	0.0339	0.0318	0.0333	0.0312
0.7263	0.7214	0.7241	0.7233	0.7242	0.7243	0.0344	0.0364	0.0344	0.0297	0.0352	0.0353
0.7222	0.7243	0.7239	0.7232	0.7251	0.7256	0.0332	0.0317	0.0328	0.0327	0.0319	0.0311
0.7289	0.7241	0.7202	0.7214	0.7249	0.7218	0.0304	0.0331	0.0326	0.0364	0.0322	0.0322
AVERAGE = 0.7246						AVERAGE = 0.0328					
$R/R_t = 0.490$ $X/R_t = 0.09$ POINT NUMBER = 2											
0.7030	0.7119	0.7087	0.7080	0.7135	0.7131	0.0397	0.0380	0.0411	0.0371	0.0335	0.0370
0.7089	0.7057	0.7114	0.7052	0.7160	0.7096	0.0408	0.0401	0.0376	0.0374	0.0339	0.0409
0.7074	0.7149	0.7122	0.7147	0.7081	0.7135	0.0409	0.0381	0.0382	0.0366	0.0401	0.0364
0.7097	0.7088	0.7093	0.7096	0.7119	0.7109	0.0385	0.0420	0.0372	0.0415	0.0377	0.0368
0.7124	0.7092	0.7041	0.7029	0.7126	0.7188	0.0358	0.0406	0.0406	0.0422	0.0347	0.0311
AVERAGE = 0.7106						AVERAGE = 0.0380					
$R/R_t = 0.330$ $X/R_t = 0.09$ POINT NUMBER = 3											
0.6839	0.6852	0.6871	0.6904	0.6881	0.6821	0.0522	0.0526	0.0515	0.0496	0.0499	0.0560
0.6876	0.6858	0.6915	0.6839	0.6854	0.6883	0.0455	0.0539	0.0484	0.0499	0.0497	0.0485
0.6883	0.6869	0.6847	0.6876	0.6853	0.6843	0.0507	0.0514	0.0532	0.0510	0.0521	0.0521
0.6860	0.6892	0.6871	0.6910	0.6878	0.6904	0.0514	0.0533	0.0519	0.0442	0.0498	0.0478
0.6918	0.6893	0.6884	0.6916	0.6891	0.6852	0.0481	0.0477	0.0506	0.0495	0.0531	0.0499
AVERAGE = 0.6875						AVERAGE = 0.0505					

(16) Inlet velocity for powered operation: nominal $X/R_t = 0.31$; $A_T = 338.94 \text{ m/s}$ (1112.0 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.560$ $X/R_t = 0.29$ POINT NUMBER = 1											
0.7592	0.7665	0.7613	0.7603	0.7552	0.7602	-0.0008	-0.0010	-0.0027	-0.0009	0.0041	-0.0029
0.7512	0.7629	0.7533	0.7622	0.7623	0.7517	0.0025	0.0014	0.0048	-0.0007	-0.0074	0.0174
0.7657	0.7627	0.7664	0.7605	0.7686	0.7644	-0.0000	-0.0016	-0.0011	0.0128	0.0013	0.0053
0.7636	0.7484	0.7641	0.7659	0.7647	0.7688	-0.0081	0.0150	0.0005	0.0021	-0.0013	-0.0036
0.7437	0.7663	0.7652	0.7662	0.7666	0.7610	0.0162	0.0061	0.0033	-0.0046	0.0028	0.0067
AVERAGE = 0.7611						AVERAGE = 0.0023					
$R/R_t = 1.478$ $X/R_t = 0.29$ POINT NUMBER = 2											
0.7606	0.7616	0.7576	0.7642	0.7609	0.7563	0.0121	0.0015	0.0088	0.0038	0.0027	0.0008
0.7601	0.7501	0.7563	0.7580	0.7575	0.7719	-0.0018	0.0118	0.0070	-0.0038	-0.0010	0.0082
0.7588	0.7612	0.7535	0.7619	0.7619	0.7579	0.0110	0.0059	0.0034	0.0130	0.0032	0.0089
0.7582	0.7608	0.7674	0.7594	0.7543	0.7651	0.0085	0.0077	0.0053	0.0085	0.0058	-0.0016
0.7536	0.7653	0.7714	0.7633	0.7610	0.7621	0.0133	0.0047	0.0018	0.0102	0.0045	-0.0015
AVERAGE = 0.7603						AVERAGE = 0.0055					
$R/R_t = 1.402$ $X/R_t = 0.29$ POINT NUMBER = 3											
0.7615	0.7661	0.7663	0.7628	0.7662	0.7654	0.0048	0.0020	0.0049	-0.0039	0.0003	-0.0030
0.7662	0.7567	0.7623	0.7628	0.7676	0.7691	-0.0026	0.0027	0.0066	0.0058	0.0022	0.0013
0.7640	0.7694	0.7664	0.7643	0.7665	0.7645	0.0036	-0.0004	0.0024	0.0008	0.0008	0.0079
0.7657	0.7557	0.7640	0.7594	0.7677	0.7579	-0.0001	0.0122	-0.0016	0.0141	0.0036	0.0036
0.7664	0.7579	0.7656	0.7573	0.7608	0.7616	0.0089	0.0053	-0.0011	0.0030	0.0016	0.0043
AVERAGE = 0.7639						AVERAGE = 0.0026					
$R/R_t = 1.363$ $X/R_t = 0.29$ POINT NUMBER = 4											
0.7651	0.7627	0.7661	0.7576	0.7567	0.7677	0.0004	0.0036	-0.0000	0.0111	0.0001	0.0012
0.7644	0.7692	0.7603	0.7668	0.7507	0.7605	-0.0020	0.0030	0.0114	-0.0004	0.0067	-0.0051
0.7661	0.7640	0.7616	0.7660	0.7654	0.7631	-0.0013	0.0005	0.0064	0.0019	0.0014	-0.0008
0.7675	0.7656	0.7652	0.7627	0.7586	0.7674	0.0021	0.0021	0.0039	-0.0044	-0.0074	0.0005
0.7673	0.7652	0.7632	0.7653	0.7600	0.7671	-0.0004	0.0011	-0.0010	0.0009	0.0043	-0.0020
AVERAGE = 0.7635						AVERAGE = 0.0014					
$R/R_t = 1.322$ $X/R_t = 0.30$ POINT NUMBER = 5											
0.7663	0.7647	0.7658	0.7636	0.7661	0.7665	0.0027	-0.0004	0.0049	0.0020	-0.0008	0.0022
0.7656	0.7643	0.7606	0.7680	0.7653	0.7650	0.0073	0.0015	0.0012	-0.0004	0.0008	0.0024
0.7674	0.7642	0.7652	0.7590	0.7678	0.7674	0.0045	-0.0015	0.0029	0.0035	0.0033	0.0040
0.7620	0.7587	0.7589	0.7651	0.7673	0.7601	0.0009	0.0061	0.0022	0.0030	-0.0001	0.0058
0.7658	0.7656	0.7664	0.7650	0.7619	0.7614	0.0010	0.0087	0.0017	0.0022	-0.0033	0.0040
AVERAGE = 0.7645						AVERAGE = 0.0023					

TABLE V. - Continued.

(16) Continued.

AXIAL VELOCITY										TANGENTIAL VELOCITY					
$R/R_t = 1.294 \quad X/R_t = 0.30$ POINT NUMBER = 6										0.0052	0.0051	-0.0013	0.0004	0.0034	0.0034
0.7611	0.7704	0.7659	0.7638	0.7657	0.7626	0.0018	0.0013	0.0042	0.0076	-0.0020	0.0165				
0.7700	0.7662	0.7655	0.7594	0.7646	0.7565	0.0016	0.0047	0.0020	0.0070	0.0017	0.0048				
0.7638	0.7632	0.7637	0.7587	0.7630	0.7638	0.0063	0.0034	0.0019	0.0020	0.0104	0.0052				
0.7674	0.7649	0.7666	0.7683	0.7574	0.7671	0.0071	0.0068	0.0020	0.0015	0.0032	0.0034				
0.7639	0.7593	0.7665	0.7605	0.7665	0.7665	AVERAGE = 0.0041									
$R/R_t = 1.244 \quad X/R_t = 0.30$ POINT NUMBER = 7										0.0024	0.0019	0.0096	0.0065	0.0027	0.0077
0.7655	0.7576	0.7700	0.7721	0.7665	0.7588	-0.0014	0.0063	0.0030	0.0062	0.0062	0.0022				
0.7615	0.7665	0.7609	0.7592	0.7603	0.7651	0.0040	0.0237	0.0031	0.0044	0.0067	0.0075				
0.7621	0.7469	0.7585	0.7647	0.7606	0.7648	0.0040	0.0103	0.0084	0.0061	0.0049	0.0033				
0.7597	0.7618	0.7634	0.7584	0.7633	0.7638	0.0043	0.0026	0.0040	0.0016	0.0056	0.0075				
0.7652	0.7636	0.7659	0.7654	0.7683	0.7585	AVERAGE = 0.0058									
$R/R_t = 1.204 \quad X/R_t = 0.30$ POINT NUMBER = 8										0.0031	0.0017	0.0009	0.0031	0.0064	0.0123
0.7655	0.7621	0.7662	0.7625	0.7661	0.7515	0.0001	0.0083	0.0079	0.0026	0.0031	0.0058				
0.7626	0.7555	0.7587	0.7492	0.7647	0.7620	0.0081	0.0046	0.0076	0.0035	0.0062	0.0076				
0.7675	0.7660	0.7653	0.7638	0.7674	0.7668	0.0079	0.0072	0.0033	0.0058	0.0001	0.0039				
0.7596	0.7695	0.7674	0.7593	0.7613	0.7626	-0.0006	0.0035	-0.0013	0.0105	0.0005	0.0050				
0.7605	0.7624	0.7625	0.7492	0.7601	0.7613	AVERAGE = 0.0044									
$R/R_t = 1.164 \quad X/R_t = 0.30$ POINT NUMBER = 9										-0.0007	0.0042	0.0127	0.0142	0.0050	0.0051
0.7614	0.7636	0.7688	0.7686	0.7612	0.7656	-0.0000	0.0048	-0.0003	0.0070	0.0088	0.0034				
0.7631	0.7636	0.7603	0.7599	0.7664	0.7595	0.0060	0.0040	0.0075	0.0034	0.0040	0.0031				
0.7612	0.7644	0.7664	0.7628	0.7615	0.7588	0.0005	0.0029	0.0017	0.0007	0.0114	0.0043				
0.7508	0.7634	0.7630	0.7609	0.7721	0.7679	0.0027	0.0027	0.0096	0.0095	0.0092	0.0072				
0.7654	0.7620	0.7706	0.7636	0.7616	0.7703	AVERAGE = 0.0051									
$R/R_t = 1.124 \quad X/R_t = 0.30$ POINT NUMBER = 10										0.0049	0.0035	0.0032	0.0093	0.0049	0.0085
0.7669	0.7660	0.7665	0.7567	0.7659	0.7713	0.0028	0.0091	0.0005	0.0096	0.0165	0.0014				
0.7660	0.7653	0.7601	0.7683	0.7745	0.7593	0.0079	0.0129	-0.0014	0.0021	0.0085	-0.0002				
0.7644	0.7614	0.7590	0.7614	0.7703	0.7622	0.0061	0.0153	0.0167	-0.0003	0.0059	0.0085				
0.7629	0.7738	0.7693	0.7580	0.7626	0.7646	0.0032	0.0066	0.0040	0.0069	0.0088	0.0069				
0.7664	0.7654	0.7629	0.7621	0.7665	0.7642	AVERAGE = 0.0063									
$R/R_t = 1.083 \quad X/R_t = 0.30$ POINT NUMBER = 11										0.0058	0.0061	0.0128	0.0071	0.0085	0.0123
0.7672	0.7664	0.7736	0.7650	0.7562	0.7551	0.0066	0.0040	0.0071	0.0088	0.0036	0.0004				
0.7638	0.7614	0.7610	0.7644	0.7617	0.7599	0.0077	0.0067	0.0156	0.0063	0.0067	0.0079				
0.7638	0.7633	0.7629	0.7647	0.7613	0.7665	0.0052	0.0086	0.0062	0.0094	0.0075	0.0019				
0.7611	0.7665	0.7657	0.7669	0.7647	0.7605	0.0070	0.0053	0.0079	0.0147	0.0034	0.0031				
0.7681	0.7661	0.7541	0.7758	0.7598	0.7622	AVERAGE = 0.0069									
$R/R_t = 1.041 \quad X/R_t = 0.30$ POINT NUMBER = 12										0.0126	0.0065	0.0070	0.0099	0.0123	0.0034
0.7598	0.7622	0.7660	0.7600	0.7675	0.7561	0.0130	0.0038	0.0093	0.0072	0.0069	0.0073				
0.7665	0.7546	0.7702	0.7663	0.7616	0.7629	0.0083	0.0076	0.0053	0.0073	0.0125	0.0099				
0.7671	0.7634	0.7628	0.7687	0.7677	0.7706	0.0099	0.0040	0.0062	0.0002	0.0058	0.0115				
0.7663	0.7653	0.7671	0.7553	0.7664	0.7531	0.0044	0.0085	0.0086	0.0076	0.0041	0.0032				
0.7610	0.7668	0.7693	0.7585	0.7619	0.7625	AVERAGE = 0.0075									
$R/R_t = 0.998 \quad X/R_t = 0.31$ POINT NUMBER = 13										0.0013	0.0065	0.0063	0.0031	0.0064	0.0070
0.7588	0.7655	0.7594	0.7601	0.7625	0.7653	0.0079	0.0111	0.0063	0.0097	0.0099	0.0085				
0.7649	0.7673	0.7594	0.7652	0.7637	0.7637	0.0067	0.0158	0.0103	0.0102	0.0076	0.0100				
0.7621	0.7728	0.7663	0.7644	0.7636	0.7653	0.0094	0.0021	0.0013	0.0077	0.0062	0.0132				
0.7718	0.7621	0.7585	0.7668	0.7644	0.7701	0.0174	0.0076	0.0101	0.0067	0.0153	0.0014				
0.7741	0.7662	0.7660	0.7628	0.7721	0.7597	AVERAGE = 0.0083									

TABLE V. - Continued.

(16) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.960 \quad X/R_t = 0.31$						POINT NUMBER = 14					
0.7610	0.7683	0.7622	0.7610	0.7612	0.7628	0.0068	0.0123	0.0059	0.0074	0.0077	0.0099
0.7610	0.7643	0.7622	0.7621	0.7531	0.7564	0.0093	0.0098	0.0070	0.0082	0.0124	0.0037
0.7612	0.7640	0.7650	0.7682	0.7642	0.7631	0.0090	0.0097	0.0083	0.0105	0.0098	0.0014
0.7606	0.7705	0.7719	0.7746	0.7633	0.7617	0.0099	0.0198	0.0109	0.0148	0.0031	0.0035
0.7672	0.7677	0.7604	0.7647	0.7612	0.7699	0.0122	0.0087	0.0070	0.0066	0.0048	0.0162
AVERAGE = 0.7638						AVERAGE = 0.0089					
$R/R_t = 0.920 \quad X/R_t = 0.31$						POINT NUMBER = 15					
0.7600	0.7618	0.7586	0.7657	0.7659	0.7610	0.0072	0.0083	0.0087	0.0134	0.0151	0.0085
0.7687	0.7573	0.7578	0.7620	0.7598	0.7598	0.0134	0.0009	0.0059	0.0068	0.0043	0.0045
0.7619	0.7565	0.7634	0.7654	0.7712	0.7647	0.0056	0.0030	0.0174	0.0122	0.0157	0.0096
0.7667	0.7660	0.7666	0.7682	0.7643	0.7620	0.0141	0.0091	0.0083	0.0103	0.0041	0.0062
0.7667	0.7639	0.7665	0.7734	0.7595	0.7636	0.0063	0.0056	0.0040	0.0175	0.0044	0.0085
AVERAGE = 0.7638						AVERAGE = 0.0089					
$R/R_t = 0.880 \quad X/R_t = 0.31$						POINT NUMBER = 16					
0.7634	0.7603	0.7547	0.7645	0.7672	0.7591	0.0115	0.0102	-0.0000	0.0095	0.0147	0.0072
0.7618	0.7634	0.7571	0.7581	0.7674	0.7589	0.0129	0.0103	0.0087	0.0109	0.0129	0.0073
0.7559	0.7540	0.7563	0.7712	0.7634	0.7612	0.0062	0.0031	0.0056	0.0144	0.0111	0.0093
0.7618	0.7629	0.7660	0.7638	0.7665	0.7603	0.0041	0.0067	0.0064	0.0085	0.0147	0.0051
0.7706	0.7606	0.7620	0.7625	0.7617	0.7574	0.0160	0.0036	0.0078	0.0062	0.0067	0.0042
AVERAGE = 0.7616						AVERAGE = 0.0084					
$R/R_t = 0.840 \quad X/R_t = 0.31$						POINT NUMBER = 17					
0.7556	0.7577	0.7546	0.7590	0.7599	0.7610	0.0034	0.0100	0.0133	0.0094	0.0079	0.0097
0.7599	0.7607	0.7636	0.7580	0.7594	0.7618	0.0128	0.0108	0.0135	0.0096	0.0077	0.0107
0.7627	0.7660	0.7632	0.7592	0.7655	0.7621	0.0111	0.0141	0.0116	0.0067	0.0134	0.0083
0.7607	0.7622	0.7620	0.7652	0.7629	0.7680	0.0062	0.0058	0.0055	0.0114	0.0108	0.0102
0.7594	0.7580	0.7629	0.7592	0.7613	0.7642	0.0054	0.0058	0.0102	0.0058	0.0093	0.0141
AVERAGE = 0.7612						AVERAGE = 0.0095					
$R/R_t = 0.798 \quad X/R_t = 0.31$						POINT NUMBER = 1					
0.7657	0.7548	0.7558	0.7581	0.7530	0.7549	0.0147	0.0072	0.0069	0.0082	0.0055	0.0076
0.7627	0.7592	0.7560	0.7525	0.7571	0.7569	0.0124	0.0094	0.0129	0.0071	0.0056	0.0072
0.7599	0.7638	0.7664	0.7635	0.7585	0.7592	0.0089	0.0092	0.0165	0.0112	0.0061	0.0060
0.7600	0.7565	0.7699	0.7583	0.7567	0.7547	0.0072	0.0084	0.0151	0.0035	0.0027	0.0001
0.7558	0.7559	0.7623	0.7585	0.7608	0.7624	0.0071	0.0049	0.0108	0.0109	0.0129	0.0111
AVERAGE = 0.7589						AVERAGE = 0.0085					
$R/R_t = 0.756 \quad X/R_t = 0.31$						POINT NUMBER = 2					
0.7522	0.7581	0.7543	0.7533	0.7530	0.7549	0.0030	0.0076	0.0088	0.0049	0.0040	0.0068
0.7563	0.7619	0.7535	0.7588	0.7594	0.7568	0.0108	0.0145	0.0070	0.0103	0.0137	0.0084
0.7576	0.7637	0.7600	0.7606	0.7583	0.7531	0.0085	0.0137	0.0097	0.0104	0.0094	0.0067
0.7604	0.7587	0.7603	0.7554	0.7528	0.7582	0.0090	0.0058	0.0065	0.0051	0.0029	0.0076
0.7570	0.7632	0.7557	0.7584	0.7571	0.7555	0.0040	0.0154	0.0066	0.0085	0.0052	0.0067
AVERAGE = 0.7573						AVERAGE = 0.0080					
$R/R_t = 0.713 \quad X/R_t = 0.31$						POINT NUMBER = 3					
0.7594	0.7528	0.7587	0.7557	0.7559	0.7589	0.0144	0.0140	0.0176	0.0276	0.0170	0.0128
0.7515	0.7500	0.7567	0.7474	0.7608	0.7650	0.0137	0.0116	0.0113	0.0228	0.0144	0.0302
0.7535	0.7634	0.7578	0.7651	0.7660	0.7708	0.0096	0.0191	0.0220	0.0255	0.0123	0.0199
0.7511	0.7569	0.7546	0.7629	0.7556	0.7644	0.0148	0.0096	0.0210	0.0200	0.0189	0.0154
0.7570	0.7509	0.7593	0.7545	0.7547	0.7546	0.0155	0.0156	0.0232	0.0092	0.0085	0.0219
AVERAGE = 0.7575						AVERAGE = 0.0171					
$R/R_t = 0.670 \quad X/R_t = 0.31$						POINT NUMBER = 4					
0.7603	0.7608	0.7614	0.7496	0.7536	0.7692	0.0214	0.0165	0.0223	0.0196	0.0120	0.0244
0.7640	0.7701	0.7479	0.7607	0.7609	0.7603	0.0218	0.0280	0.0089	0.0177	0.0228	0.0215
0.7629	0.7700	0.7591	0.7646	0.7562	0.7642	0.0173	0.0226	0.0231	0.0285	0.0148	0.0166
0.7602	0.7520	0.7560	0.7690	0.7636	0.7512	0.0208	0.0134	0.0149	0.0212	0.0251	0.0115
0.7629	0.7478	0.7594	0.7503	0.7565	0.7713	0.0197	0.0055	0.0157	0.0143	0.0200	0.0324
AVERAGE = 0.7602						AVERAGE = 0.0193					

TABLE V. - Continued.

(16) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.630 \quad X/R_t = 0.32$ POINT NUMBER = 5											
0.7518	0.7432	0.7428	0.7424	0.7452	0.7472	0.0143	0.0058	0.0050	0.0038	0.0071	0.0125
0.7487	0.7478	0.7486	0.7469	0.7507	0.7471	0.0054	0.0049	0.0033	0.0033	0.0072	0.0049
0.7447	0.7472	0.7475	0.7500	0.7475	0.7493	0.0100	0.0007	0.0040	0.0044	0.0030	0.0087
0.7483	0.7530	0.7546	0.7500	0.7541	0.7478	0.0054	0.0077	0.0049	0.0053	0.0116	0.0073
0.7472	0.7446	0.7502	0.7441	0.7472	0.7483	0.0093	0.0111	0.0096	0.0109	0.0076	0.0070
AVERAGE	= 0.7478					AVERAGE	= 0.0071				
$R/R_t = 0.590 \quad X/R_t = 0.32$ POINT NUMBER = 6											
0.7451	0.7404	0.7460	0.7442	0.7449	0.7460	0.0076	0.0019	0.0124	0.0023	0.0055	0.0092
0.7451	0.7435	0.7451	0.7447	0.7471	0.7489	0.0018	0.0031	0.0045	0.0020	0.0060	0.0083
0.7470	0.7467	0.7487	0.7520	0.7487	0.7476	0.0074	0.0018	0.0073	0.0086	0.0049	0.0015
0.7501	0.7473	0.7480	0.7451	0.7488	0.7463	0.0053	0.0043	0.0040	0.0008	0.0038	0.0026
0.7445	0.7480	0.7475	0.7462	0.7465	0.7439	0.0049	0.0099	0.0071	0.0062	0.0058	0.0074
AVERAGE	= 0.7465					AVERAGE	= 0.0052				
$R/R_t = 0.547 \quad X/R_t = 0.32$ POINT NUMBER = 7											
0.7394	0.7398	0.7397	0.7417	0.7412	0.7398	0.0041	0.0014	0.0021	0.0005	-0.0006	0.0002
0.7492	0.7465	0.7424	0.7450	0.7501	0.7435	0.0059	0.0079	0.0025	0.0025	0.0068	0.0039
0.7490	0.7443	0.7434	0.7442	0.7464	0.7491	0.0073	0.0019	0.0034	0.0061	0.0023	0.0036
0.7441	0.7470	0.7459	0.7441	0.7447	0.7413	0.0039	0.0014	0.0031	0.0031	0.0064	0.0027
0.7400	0.7384	0.7455	0.7505	0.7394	0.7395	0.0024	0.0029	0.0048	0.0122	-0.0007	0.0038
AVERAGE	= 0.7439					AVERAGE	= 0.0036				
$R/R_t = 0.505 \quad X/R_t = 0.32$ POINT NUMBER = 8											
0.7424	0.7375	0.7386	0.7385	0.7356	0.7425	0.0037	0.0067	0.0033	0.0002	0.0041	0.0057
0.7325	0.7406	0.7461	0.7440	0.7396	0.7412	0.0051	0.0030	0.0066	0.0037	0.0015	0.0040
0.7423	0.7389	0.7397	0.7427	0.7412	0.7408	0.0027	0.0046	0.0016	0.0058	0.0040	0.0043
0.7409	0.7427	0.7401	0.7390	0.7384	0.7396	0.0017	0.0017	0.0025	0.0031	0.0057	0.0050
0.7417	0.7413	0.7368	0.7406	0.7370	0.7394	0.0048	0.0035	0.0055	-0.0004	0.0045	0.0035
AVERAGE	= 0.7401					AVERAGE	= 0.0038				

(17) Inlet velocity for powered operation: nominal $X/R_t = 0.33$; $A_T = 344.24 \text{ m/s}$ (1129.4 ft/s); $\beta_{3/4} = 60.9^\circ$

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.910 \quad X/R_t = 0.32$ POINT NUMBER = 2											
0.6853	0.6842	0.6876	0.6876	0.6870	0.6857	0.0066	0.0061	0.0032	0.0045	0.0040	0.0053
0.6882	0.6906	0.6901	0.6908	0.6840	0.6922	0.0062	0.0053	0.0052	0.0069	0.0081	0.0052
0.6908	0.6898	0.6899	0.6939	0.6910	0.6909	0.0079	0.0052	0.0057	0.0067	0.0045	0.0057
0.6925	0.6857	0.6883	0.6890	0.6939	0.6910	0.0074	0.0083	0.0059	0.0054	0.0053	0.0084
0.6846	0.6697	0.6743	0.6831	0.6842	0.6857	0.0030	0.0178	0.0184	0.0134	0.0059	0.0081
AVERAGE	= 0.6852					AVERAGE	= 0.0092				
$R/R_t = 0.380 \quad X/R_t = 0.32$ POINT NUMBER = 3											
0.6866	0.6922	0.6903	0.6834	0.6899	0.6884	0.0096	0.0037	0.0067	0.0030	0.0032	0.0045
0.6869	0.6863	0.6910	0.6888	0.6884	0.6909	0.0086	0.0020	0.0020	0.0075	0.0036	0.0030
0.6931	0.6901	0.6885	0.6897	0.6895	0.6933	0.0061	0.0054	0.0067	0.0026	0.0037	0.0057
0.6885	0.6953	0.6945	0.6894	0.6928	0.6833	0.0082	0.0136	0.0142	0.0056	0.0066	0.0019
0.6497	0.6403	0.6454	0.6654	0.6889	0.6904	-0.0296	-0.0170	-0.0118	-0.0093	0.0045	0.0065
AVERAGE	= 0.6706					AVERAGE	= -0.0088				
$R/R_t = 0.470 \quad X/R_t = 0.32$ POINT NUMBER = 4											
0.6861	0.6827	0.6851	0.6865	0.6815	0.6858	0.0033	0.0047	0.0021	0.0021	-0.0028	0.0031
0.6849	0.6867	0.6909	0.6861	0.6845	0.6911	-0.0026	-0.0022	0.0024	-0.0028	-0.0031	0.0015
0.6904	0.6841	0.6999	0.6914	0.6981	0.6932	0.0041	-0.0093	0.0019	0.0009	0.0054	0.0016
0.6812	0.6908	0.6851	0.6867	0.6929	0.6604	-0.0074	0.0041	0.0019	0.0056	0.0066	-0.0245
0.6719	0.6781	0.6587	0.6782	0.6798	0.6844	-0.0045	0.0030	-0.0166	0.0055	0.0056	0.0089
AVERAGE	= 0.6822					AVERAGE	= -0.0024				

TABLE V. - Continued.

(17) Continued.

AXIAL VELOCITY

TANGENTIAL VELOCITY

$R/R_t = 0.510 \quad X/R_t = 0.32$			POINT NUMBER = 5								
0.6900	0.6863	0.6828	0.6880	0.6889	0.6917	0.0063	0.0082	-0.0073	0.0042	-0.0002	0.0020
0.6954	0.6960	0.6976	0.6940	0.6891	0.6926	0.0029	0.0033	0.0022	-0.0009	-0.0016	-0.0024
0.6949	0.6975	0.6953	0.6969	0.6969	0.6957	0.0001	0.0022	0.0006	-0.0021	0.0009	-0.0025
0.6959	0.7016	0.6940	0.6873	0.6903	0.6933	0.0013	0.0040	0.0045	0.0100	0.0001	-0.0003
0.6905	0.6912	0.6933	0.6857	0.6889	0.6850	0.0102	0.0050	0.0129	0.0076	0.0035	0.0096
AVERAGE = 0.6920						AVERAGE = 0.0030					

$R/R_t = 0.550 \quad X/R_t = 0.32$			POINT NUMBER = 6								
0.6902	0.6908	0.6928	0.6900	0.6856	0.6908	0.0051	0.0104	0.0044	0.0008	-0.0018	0.0001
0.6917	0.6951	0.6940	0.6914	0.7013	0.6986	-0.0053	-0.0014	0.0038	-0.0025	-0.0000	-0.0004
0.7023	0.7006	0.7052	0.6983	0.6983	0.7044	0.0038	-0.0020	0.0031	-0.0027	-0.0055	0.0036
0.6983	0.7036	0.6935	0.6998	0.7022	0.6998	-0.0025	0.0058	-0.0024	0.0046	0.0058	0.0077
0.6899	0.6910	0.6933	0.6891	0.6870	0.6863	0.0034	0.0036	0.0082	0.0102	0.0007	0.0052
AVERAGE = 0.6952						AVERAGE = 0.0022					

AXIAL VELOCITY

RADIAL VELOCITY

$R/R_t = 1.320 \quad X/R_t = 0.33$			POINT NUMBER = 1								
0.7479	0.7518	0.7502	0.7515	0.7474	0.7532	0.0350	0.0328	0.0311	0.0343	0.0355	0.0315
0.7481	0.7510	0.7518	0.7518	0.7523	0.7524	0.0304	0.0346	0.0336	0.0320	0.0326	0.0337
0.7524	0.7497	0.7492	0.7522	0.7500	0.7496	0.0328	0.0315	0.0284	0.0316	0.0316	0.0305
0.7504	0.7516	0.7506	0.7466	0.7465	0.7513	0.0332	0.0332	0.0339	0.0323	0.0336	0.0351
0.7480	0.7469	0.7462	0.7468	0.7485	0.7496	0.0318	0.0326	0.0334	0.0313	0.0306	0.0315
AVERAGE = 0.7503						AVERAGE = 0.0322					

$R/R_t = 1.270 \quad X/R_t = 0.33$			POINT NUMBER = 2								
0.7550	0.7517	0.7533	0.7512	0.7536	0.7500	0.0344	0.0322	0.0338	0.0335	0.0321	0.0284
0.7507	0.7508	0.7493	0.7497	0.7497	0.7523	0.0306	0.0333	0.0313	0.0338	0.0335	0.0313
0.7503	0.7511	0.7524	0.7512	0.7500	0.7518	0.0316	0.0307	0.0360	0.0340	0.0281	0.0328
0.7431	0.7485	0.7476	0.7501	0.7489	0.7446	0.0313	0.0328	0.0320	0.0324	0.0314	0.0319
0.7493	0.7476	0.7427	0.7506	0.7502	0.7505	0.0324	0.0302	0.0326	0.0347	0.0282	0.0335
AVERAGE = 0.7501						AVERAGE = 0.0327					

$R/R_t = 1.230 \quad X/R_t = 0.33$			POINT NUMBER = 3								
0.7518	0.7517	0.7523	0.7519	0.7520	0.7515	0.0339	0.0300	0.0321	0.0332	0.0325	0.0325
0.7512	0.7508	0.7419	0.7516	0.7518	0.7484	0.0334	0.0347	0.0398	0.0273	0.0306	0.0383
0.7537	0.7502	0.7494	0.7560	0.7548	0.7484	0.0356	0.0329	0.0316	0.0367	0.0367	0.0330
0.7517	0.7515	0.7463	0.7490	0.7480	0.7476	0.0322	0.0367	0.0338	0.0336	0.0325	0.0305
0.7468	0.7488	0.7496	0.7496	0.7511	0.7500	0.0344	0.0312	0.0315	0.0326	0.0344	0.0319
AVERAGE = 0.7506						AVERAGE = 0.0336					

$R/R_t = 1.180 \quad X/R_t = 0.33$			POINT NUMBER = 4								
0.7511	0.7500	0.7510	0.7490	0.7511	0.7449	0.0316	0.0324	0.0324	0.0340	0.0339	0.0361
0.7501	0.7463	0.7527	0.7523	0.7485	0.7530	0.0315	0.0328	0.0325	0.0328	0.0284	0.0336
0.7525	0.7499	0.7524	0.7515	0.7510	0.7492	0.0348	0.0330	0.0326	0.0319	0.0311	0.0319
0.7499	0.7494	0.7533	0.7438	0.7461	0.7407	0.0299	0.0308	0.0352	0.0352	0.0308	0.0328
0.7458	0.7500	0.7488	0.7474	0.7482	0.7510	0.0331	0.0343	0.0300	0.0324	0.0334	0.0348
AVERAGE = 0.7494						AVERAGE = 0.0327					

$R/R_t = 1.130 \quad X/R_t = 0.33$			POINT NUMBER = 5								
0.7500	0.7518	0.7489	0.7532	0.7494	0.7491	0.0311	0.0356	0.0325	0.0309	0.0298	0.0319
0.7478	0.7518	0.7513	0.7523	0.7498	0.7496	0.0352	0.0367	0.0355	0.0328	0.0356	0.0336
0.7506	0.7508	0.7519	0.7580	0.7538	0.7502	0.0314	0.0314	0.0382	0.0430	0.0352	0.0357
0.7485	0.7471	0.7499	0.7456	0.7485	0.7509	0.0325	0.0318	0.0346	0.0351	0.0347	0.0355
0.7490	0.7520	0.7502	0.7513	0.7492	0.7480	0.0344	0.0330	0.0349	0.0339	0.0325	0.0330
AVERAGE = 0.7502						AVERAGE = 0.0340					

TABLE V. - Continued.

(17) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.080 \quad X/R_t = 0.33$						POINT NUMBER = 6					
0.7506	0.7489	0.7474	0.7420	0.7496	0.7490	0.0368	0.0342	0.0348	0.0331	0.0311	0.0312
0.7498	0.7502	0.7454	0.7498	0.7539	0.7492	0.0328	0.0382	0.0433	0.0355	0.0394	0.0336
0.7491	0.7508	0.7503	0.7523	0.7506	0.7485	0.0317	0.0336	0.0321	0.0334	0.0326	0.0331
0.7477	0.7478	0.7496	0.7497	0.7485	0.7423	0.0340	0.0315	0.0330	0.0324	0.0308	0.0355
0.7493	0.7474	0.7498	0.7473	0.7488	0.7496	0.0304	0.0343	0.0388	0.0318	0.0348	0.0333
AVERAGE	= 0.7488					AVERAGE = 0.0340					
$R/R_t = 1.040 \quad X/R_t = 0.33$						POINT NUMBER = 7					
0.7456	0.7452	0.7463	0.7452	0.7477	0.7453	0.0311	0.0317	0.0350	0.0343	0.0359	0.0364
0.7506	0.7446	0.7532	0.7486	0.7455	0.7524	0.0368	0.0408	0.0374	0.0344	0.0336	0.0365
0.7502	0.7495	0.7478	0.7489	0.7483	0.7492	0.0344	0.0352	0.0365	0.0344	0.0374	0.0371
0.7500	0.7513	0.7480	0.7481	0.7473	0.7469	0.0339	0.0373	0.0328	0.0313	0.0334	0.0357
0.7464	0.7436	0.7454	0.7446	0.7425	0.7470	0.0366	0.0331	0.0329	0.0343	0.0295	0.0357
AVERAGE	= 0.7475					AVERAGE = 0.0347					
$R/R_t = 0.990 \quad X/R_t = 0.33$						POINT NUMBER = 8					
0.7435	0.7468	0.7440	0.7426	0.7464	0.7460	0.0396	0.0368	0.0357	0.0337	0.0317	0.0339
0.7469	0.7474	0.7451	0.7492	0.7465	0.7464	0.0374	0.0357	0.0359	0.0374	0.0360	0.0393
0.7471	0.7490	0.7492	0.7467	0.7453	0.7480	0.0349	0.0366	0.0317	0.0351	0.0384	0.0347
0.7496	0.7489	0.7483	0.7485	0.7461	0.7467	0.0362	0.0338	0.0333	0.0315	0.0326	0.0341
0.7471	0.7465	0.7484	0.7483	0.7451	0.7481	0.0344	0.0318	0.0367	0.0352	0.0333	0.0359
AVERAGE	= 0.7469					AVERAGE = 0.0351					
$R/R_t = 0.950 \quad X/R_t = 0.33$						POINT NUMBER = 9					
0.7477	0.7432	0.7452	0.7437	0.7420	0.7425	0.0379	0.0381	0.0332	0.0355	0.0395	0.0352
0.7436	0.7446	0.7446	0.7483	0.7468	0.7495	0.0359	0.0375	0.0341	0.0379	0.0363	0.0375
0.7448	0.7463	0.7459	0.7458	0.7460	0.7442	0.0383	0.0386	0.0402	0.0336	0.0369	0.0323
0.7489	0.7449	0.7445	0.7452	0.7474	0.7481	0.0367	0.0374	0.0380	0.0397	0.0358	0.0363
0.7483	0.7528	0.7448	0.7451	0.7436	0.7445	0.0354	0.0421	0.0374	0.0365	0.0361	0.0385
AVERAGE	= 0.7458					AVERAGE = 0.0369					
$R/R_t = 0.900 \quad X/R_t = 0.33$						POINT NUMBER = 10					
0.7425	0.7430	0.7405	0.7423	0.7426	0.7443	0.0375	0.0401	0.0350	0.0381	0.0372	0.0404
0.7409	0.7423	0.7448	0.7415	0.7458	0.7413	0.0376	0.0375	0.0397	0.0408	0.0337	0.0369
0.7457	0.7449	0.7455	0.7446	0.7429	0.7468	0.0395	0.0364	0.0356	0.0381	0.0462	0.0385
0.7449	0.7430	0.7414	0.7433	0.7451	0.7465	0.0375	0.0419	0.0420	0.0374	0.0429	0.0346
0.7442	0.7472	0.7387	0.7444	0.7435	0.7428	0.0399	0.0365	0.0413	0.0402	0.0382	0.0387
AVERAGE	= 0.7435					AVERAGE = 0.0385					
$R/R_t = 0.860 \quad X/R_t = 0.33$						POINT NUMBER = 11					
0.7364	0.7436	0.7407	0.7391	0.7426	0.7381	0.0439	0.0385	0.0412	0.0395	0.0443	0.0377
0.7434	0.7396	0.7436	0.7423	0.7393	0.7418	0.0371	0.0361	0.0386	0.0396	0.0394	0.0393
0.7392	0.7447	0.7438	0.7452	0.7450	0.7435	0.0417	0.0392	0.0388	0.0367	0.0425	0.0398
0.7415	0.7419	0.7420	0.7405	0.7441	0.7411	0.0397	0.0371	0.0405	0.0447	0.0429	0.0437
0.7416	0.7365	0.7446	0.7408	0.7385	0.7404	0.0375	0.0442	0.0429	0.0421	0.0410	0.0395
AVERAGE	= 0.7415					AVERAGE = 0.0403					
$R/R_t = 0.860 \quad X/R_t = 0.33$						POINT NUMBER = 12					
0.7376	0.7383	0.7394	0.7408	0.7392	0.7452	0.0384	0.0400	0.0406	0.0398	0.0374	0.0370
0.7402	0.7420	0.7414	0.7457	0.7425	0.7444	0.0387	0.0394	0.0395	0.0412	0.0371	0.0401
0.7437	0.7446	0.7408	0.7446	0.7435	0.7394	0.0345	0.0355	0.0377	0.0352	0.0366	0.0407
0.7431	0.7436	0.7380	0.7424	0.7427	0.7422	0.0382	0.0411	0.0380	0.0385	0.0405	0.0383
0.7430	0.7378	0.7408	0.7434	0.7377	0.7413	0.0382	0.0359	0.0373	0.0378	0.0441	0.0443
AVERAGE	= 0.7416					AVERAGE = 0.0388					
$R/R_t = 0.770 \quad X/R_t = 0.33$						POINT NUMBER = 13					
0.7351	0.7369	0.7362	0.7344	0.7405	0.7369	0.0455	0.0468	0.0452	0.0419	0.0444	0.0426
0.7369	0.7411	0.7378	0.7399	0.7439	0.7386	0.0447	0.0423	0.0415	0.0413	0.0416	0.0418
0.7412	0.7396	0.7397	0.7391	0.7384	0.7369	0.0406	0.0452	0.0450	0.0428	0.0426	0.0445
0.7384	0.7384	0.7379	0.7359	0.7389	0.7415	0.0412	0.0428	0.0418	0.0471	0.0408	0.0482
0.7341	0.7336	0.7359	0.7359	0.7363	0.7365	0.0457	0.0456	0.0460	0.0454	0.0429	0.0456
AVERAGE	= 0.7377					AVERAGE = 0.0439					

TABLE V. - Continued.

(17) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.810 \quad X/R_t = 0.33$ POINT NUMBER = 14											
0.7383	0.7390	0.7405	0.7390	0.7399	0.7404	0.0397	0.0421	0.0432	0.0421	0.0421	0.0426
0.7407	0.7402	0.7401	0.7432	0.7379	0.7399	0.0396	0.0389	0.0422	0.0424	0.0372	0.0347
0.7399	0.7429	0.7437	0.7418	0.7368	0.7401	0.0409	0.0374	0.0395	0.0413	0.0374	0.0391
0.7407	0.7420	0.7396	0.7418	0.7389	0.7354	0.0385	0.0404	0.0391	0.0406	0.0413	0.0437
0.7388	0.7411	0.7411	0.7401	0.7378	0.7390	0.0428	0.0402	0.0400	0.0406	0.0428	0.0454
AVERAGE = 0.7400						AVERAGE = 0.0406					
$R/R_t = 0.770 \quad X/R_t = 0.33$ POINT NUMBER = 15											
0.7378	0.7336	0.7396	0.7381	0.7323	0.7428	0.0450	0.0421	0.0421	0.0452	0.0453	0.0395
0.7391	0.7415	0.7408	0.7383	0.7378	0.7417	0.0436	0.0414	0.0399	0.0399	0.0422	0.0433
0.7409	0.7379	0.7375	0.7361	0.7351	0.7379	0.0425	0.0432	0.0446	0.0418	0.0440	0.0430
0.7384	0.7357	0.7373	0.7367	0.7372	0.7374	0.0400	0.0432	0.0424	0.0444	0.0429	0.0437
0.7392	0.7376	0.7268	0.7355	0.7322	0.7369	0.0445	0.0418	0.0430	0.0409	0.0432	0.0448
AVERAGE = 0.7373						AVERAGE = 0.0429					
$R/R_t = 0.720 \quad X/R_t = 0.33$ POINT NUMBER = 16											
0.7326	0.7284	0.7339	0.7363	0.7366	0.7355	0.0433	0.0464	0.0439	0.0421	0.0428	0.0429
0.7340	0.7369	0.7361	0.7384	0.7399	0.7392	0.0444	0.0427	0.0471	0.0444	0.0440	0.0402
0.7356	0.7377	0.7366	0.7389	0.7369	0.7338	0.0398	0.0442	0.0428	0.0474	0.0490	0.0419
0.7340	0.7367	0.7352	0.7340	0.7293	0.7322	0.0435	0.0452	0.0406	0.0433	0.0491	0.0487
0.7360	0.7349	0.7294	0.7305	0.7347	0.7351	0.0464	0.0446	0.0436	0.0481	0.0468	0.0449
AVERAGE = 0.7353						AVERAGE = 0.0449					
$R/R_t = 0.680 \quad X/R_t = 0.33$ POINT NUMBER = 17											
0.7332	0.7335	0.7327	0.7333	0.7358	0.7336	0.0480	0.0492	0.0440	0.0435	0.0468	0.0476
0.7331	0.7354	0.7374	0.7369	0.7359	0.7351	0.0480	0.0471	0.0484	0.0453	0.0451	0.0489
0.7353	0.7370	0.7315	0.7358	0.7334	0.7294	0.0468	0.0473	0.0488	0.0468	0.0473	0.0473
0.7294	0.7309	0.7338	0.7349	0.7305	0.7285	0.0437	0.0450	0.0465	0.0490	0.0459	0.0482
0.7269	0.7280	0.7250	0.7316	0.7276	0.7333	0.0531	0.0472	0.0462	0.0497	0.0495	0.0468
AVERAGE = 0.7325						AVERAGE = 0.0472					
$R/R_t = 0.640 \quad X/R_t = 0.33$ POINT NUMBER = 18											
0.7282	0.7295	0.7290	0.7296	0.7296	0.7293	0.0495	0.0527	0.0500	0.0526	0.0551	0.0501
0.7307	0.7292	0.7268	0.7285	0.7283	0.7305	0.0483	0.0475	0.0452	0.0574	0.0552	0.0510
0.7268	0.7306	0.7284	0.7280	0.7265	0.7312	0.0485	0.0551	0.0520	0.0485	0.0473	0.0530
0.7258	0.7269	0.7209	0.7243	0.7194	0.7236	0.0526	0.0475	0.0522	0.0506	0.0498	0.0545
0.7202	0.7226	0.7237	0.7223	0.7214	0.7309	0.0537	0.0554	0.0520	0.0494	0.0521	0.0495
AVERAGE = 0.7268						AVERAGE = 0.0511					
$R/R_t = 0.590 \quad X/R_t = 0.33$ POINT NUMBER = 19											
0.7183	0.7206	0.7270	0.7216	0.7251	0.7282	0.0552	0.0549	0.0507	0.0512	0.0488	0.0554
0.7267	0.7261	0.7264	0.7285	0.7291	0.7277	0.0526	0.0542	0.0512	0.0540	0.0556	0.0569
0.7254	0.7276	0.7226	0.7191	0.7243	0.7209	0.0549	0.0569	0.0554	0.0507	0.0530	0.0511
0.7217	0.7213	0.7214	0.7143	0.7205	0.7148	0.0553	0.0539	0.0560	0.0561	0.0553	0.0594
0.7161	0.7146	0.7169	0.7176	0.7175	0.7151	0.0532	0.0531	0.0577	0.0554	0.0563	0.0576
AVERAGE = 0.7219						AVERAGE = 0.0542					
$R/R_t = 0.550 \quad X/R_t = 0.33$ POINT NUMBER = 20											
0.7173	0.7173	0.7121	0.7184	0.7215	0.7185	0.0547	0.0533	0.0543	0.0556	0.0580	0.0547
0.7198	0.7242	0.7176	0.7224	0.7193	0.7220	0.0562	0.0599	0.0547	0.0547	0.0581	0.0590
0.7266	0.7209	0.7173	0.7190	0.7131	0.7165	0.0568	0.0586	0.0555	0.0576	0.0594	0.0546
0.7147	0.7123	0.7095	0.7121	0.7121	0.7057	0.0568	0.0589	0.0586	0.0614	0.0588	0.0598
0.7068	0.7103	0.7110	0.7103	0.7142	0.7097	0.0621	0.0639	0.0564	0.0601	0.0584	0.0553
AVERAGE = 0.7156						AVERAGE = 0.0576					
$R/R_t = 0.510 \quad X/R_t = 0.33$ POINT NUMBER = 21											
0.7119	0.7109	0.7181	0.7128	0.7145	0.7173	0.0618	0.0638	0.0653	0.0660	0.0595	0.0621
0.7147	0.7158	0.7105	0.7151	0.7119	0.7191	0.0620	0.0666	0.0616	0.0628	0.0643	0.0618
0.7118	0.7148	0.7165	0.7141	0.7112	0.7138	0.0632	0.0569	0.0582	0.0622	0.0613	0.0622
0.7132	0.7069	0.7111	0.7047	0.7046	0.7045	0.0631	0.0657	0.0609	0.0622	0.0665	0.0627
0.7046	0.7029	0.7034	0.7077	0.7076	0.7044	0.0630	0.0656	0.0651	0.0635	0.0606	0.0648
AVERAGE = 0.7110						AVERAGE = 0.0628					

TABLE V. - Continued.

(17) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.460$ $X/R_t = 0.33$ POINT NUMBER = 22											
0.7049	0.7042	0.7068	0.7067	0.7083	0.7120	0.0672	0.0661	0.0679	0.0652	0.0737	0.0681
0.7066	0.7145	0.7139	0.7105	0.7152	0.7099	0.0705	0.0689	0.0685	0.0712	0.0724	0.0684
0.7081	0.7106	0.7030	0.7083	0.7013	0.7043	0.0705	0.0683	0.0698	0.0698	0.0721	0.0727
0.7012	0.6989	0.6987	0.6997	0.6968	0.6981	0.0704	0.0712	0.0681	0.0729	0.0667	0.0721
0.7008	0.6995	0.6995	0.6974	0.7018	0.7028	0.0700	0.0695	0.0732	0.0684	0.0678	0.0743
AVERAGE = 0.7055						AVERAGE = 0.0699					
$R/R_t = 0.420$ $X/R_t = 0.33$ POINT NUMBER = 23											
0.7054	0.7008	0.6999	0.7054	0.7014	0.7053	0.0712	0.0768	0.0726	0.0757	0.0718	0.0777
0.7056	0.7053	0.7081	0.7065	0.7101	0.7038	0.0728	0.0730	0.0724	0.0753	0.0708	0.0741
0.7061	0.7063	0.7045	0.7024	0.7006	0.7018	0.0788	0.0746	0.0723	0.0751	0.0769	0.0784
0.7013	0.6966	0.7004	0.6928	0.6984	0.6955	0.0739	0.0739	0.0730	0.0747	0.0737	0.0748
0.6935	0.6978	0.6955	0.6955	0.7030	0.6998	0.0759	0.0715	0.0713	0.0692	0.0702	0.0739
AVERAGE = 0.7014						AVERAGE = 0.0738					
$R/R_t = 0.380$ $X/R_t = 0.33$ POINT NUMBER = 24											
0.6969	0.6936	0.6951	0.6958	0.6974	0.6996	0.0843	0.0803	0.0808	0.0827	0.0863	0.0851
0.7011	0.6932	0.6924	0.7010	0.6960	0.7009	0.0839	0.0877	0.0792	0.0876	0.0815	0.0836
0.7001	0.7008	0.6953	0.6949	0.6951	0.6982	0.0818	0.0806	0.0837	0.0840	0.0842	0.0847
0.6920	0.6985	0.6932	0.6911	0.6900	0.6915	0.0857	0.0845	0.0869	0.0854	0.0864	0.0806
0.6928	0.6906	0.6908	0.6986	0.6971	0.6914	0.0768	0.0851	0.0823	0.0831	0.0823	0.0840
AVERAGE = 0.6956						AVERAGE = 0.0836					
$R/R_t = 0.340$ $X/R_t = 0.33$ POINT NUMBER = 25											
0.6903	0.6915	0.6944	0.6976	0.6914	0.6960	0.0944	0.0944	0.0929	0.0952	0.0903	0.0980
0.6974	0.6967	0.6949	0.6905	0.6909	0.6997	0.0973	0.0970	0.0959	0.0947	0.0924	0.0973
0.6961	0.6941	0.6982	0.6947	0.6909	0.6936	0.0975	0.0956	0.0943	0.0976	0.0943	0.0961
0.6985	0.6915	0.6889	0.6877	0.6851	0.6858	0.0996	0.0954	0.0931	0.0939	0.0905	0.0919
0.6872	0.6889	0.6889	0.6895	0.6903	0.6885	0.0940	0.0923	0.0965	0.0918	0.0980	0.0980
AVERAGE = 0.6923						AVERAGE = 0.0950					
$R/R_t = 0.300$ $X/R_t = 0.33$ POINT NUMBER = 26											
0.6838	0.6897	0.6863	0.6823	0.6903	0.6851	0.1112	0.1156	0.1120	0.1084	0.1090	0.1039
0.6834	0.6842	0.6850	0.6867	0.6865	0.6852	0.1098	0.1135	0.1031	0.1114	0.1096	0.1105
0.6807	0.6865	0.6874	0.6859	0.6866	0.6938	0.1018	0.1112	0.1040	0.1092	0.1078	0.1140
0.6834	0.6894	0.6808	0.6836	0.6839	0.6821	0.1122	0.1059	0.1051	0.1117	0.1106	0.1055
0.6865	0.6839	0.6889	0.6837	0.6839	0.6876	0.1129	0.1052	0.1087	0.1143	0.1048	0.1090
AVERAGE = 0.6855						AVERAGE = 0.1091					
$R/R_t = 0.250$ $X/R_t = 0.33$ POINT NUMBER = 28											
0.6804	0.6712	0.6754	0.6774	0.6787	0.6760	0.1328	0.1247	0.1264	0.1233	0.1310	0.1256
0.6730	0.6729	0.6714	0.6752	0.6722	0.6722	0.1198	0.1298	0.1221	0.1253	0.1279	0.1307
0.6749	0.6750	0.6806	0.6721	0.6722	0.6753	0.1197	0.1139	0.1260	0.1205	0.1311	0.1232
0.6723	0.6754	0.6680	0.6735	0.6781	0.6686	0.1217	0.1154	0.1187	0.1211	0.1230	0.1183
0.6728	0.6743	0.6782	0.6780	0.6728	0.6684	0.1310	0.1205	0.1322	0.1258	0.1225	0.1248
AVERAGE = 0.6742						AVERAGE = 0.1245					

(18) Exit velocity for powered operation: nominal $X/R_t = 0.85$; $A_T = 342.41 \text{ m/s}$ (1123.4 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.550; p_9$ $X/R_t = 0.87$ POINT NUMBER = 17											
0.7036	0.7189	0.7164	0.7200	0.7160	0.7087	-0.0688	-0.0369	-0.0532	-0.0436	-0.0425	-0.0450
0.7088	0.7056	0.6972	0.6960	0.6974	0.6666	-0.0430	-0.0540	-0.0414	-0.0549	-0.0207	-0.0319
0.7053	0.6800	0.7173	0.7238	0.7442	0.7318	-0.0158	-0.0513	-0.0539	-0.0353	-0.0328	-0.0421
0.7060	0.7370	0.7412	0.7140	0.7018	0.7016	-0.0372	-0.0288	-0.0311	-0.0587	-0.0685	-0.0677
0.7032	0.7020	0.6831	0.7088	0.7147	0.6899	-0.0357	-0.0541	-0.0748	-0.0629	-0.0503	-0.0648
AVERAGE = 0.7089						AVERAGE = -0.0481					
$R/R_t = 0.590$ $X/R_t = 0.87$ POINT NUMBER = 18											
0.7203	0.7221	0.7244	0.7139	0.7215	0.7286	0.0283	0.0344	0.0061	0.0276	0.0057	0.0246
0.7254	0.7222	0.7348	0.7255	0.7148	0.6974	0.0028	0.0121	0.0083	-0.0101	0.0158	0.0428
0.6912	0.6693	0.7307	0.7167	0.7456	0.7276	-0.0193	0.0193	0.0375	0.0377	0.0277	0.0342
0.7112	0.7354	0.7274	0.7303	0.6903	0.7057	0.0432	0.0243	0.0222	0.0041	0.0029	0.0101
0.7378	0.7192	0.7371	0.7403	0.7305	0.7196	-0.0037	0.0288	0.0118	0.0181	0.0097	0.0101
AVERAGE = 0.7176						AVERAGE = 0.0160					

TABLE V. - Continued.

(18) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.630 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 19											
0.7273	0.7427	0.7362	0.7357	0.7363	0.7484	-0.0386	-0.0279	-0.0325	-0.0233	-0.0214	-0.0183
0.7325	0.7444	0.7408	0.7403	0.7348	0.6714	-0.0311	-0.0327	-0.0274	-0.0180	-0.0320	0.0197
0.7047	0.7390	0.7505	0.7492	0.7611	0.7538	-0.0474	-0.0069	-0.0175	-0.0236	-0.0135	-0.0236
0.7514	0.7546	0.7462	0.7491	0.7403	0.7457	-0.0403	-0.0304	-0.0217	-0.0374	-0.0209	-0.0388
0.7306	0.7586	0.7438	0.7452	0.7292	0.7312	-0.0188	-0.0296	-0.0423	-0.0312	-0.0255	-0.0356
AVERAGE	= 0.7391					AVERAGE	= -0.0264				

(19) Exit velocity for powered operation: nominal $X/R_t = 0.86$; $A_T = 338.94 \text{ m/s}$ (1112.0 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.670 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 3											
0.7837	0.7916	0.7914	0.7982	0.7985	0.7897	0.0402	0.0402	0.0437	0.0519	0.0537	0.0529
0.7897	0.7903	0.7906	0.7814	0.7852	0.7799	0.0572	0.0518	0.0527	0.0459	0.0513	0.0464
0.7754	0.7523	0.7145	0.8071	0.7976	0.7820	0.0451	0.0652	0.0853	0.0908	0.0369	0.0210
0.8030	0.8259	0.7929	0.7931	0.8020	0.8010	0.0405	0.0564	0.0317	0.0396	0.0383	0.0424
0.7911	0.7978	0.7946	0.7959	0.8000	0.7935	0.0409	0.0397	0.0405	0.0487	0.0487	0.0406
AVERAGE	= 0.7897					AVERAGE	= 0.0472				
$R/R_t = 0.590 \quad X/R_t = 0.88 \quad$ POINT NUMBER = 5											
0.8070	0.8099	0.8058	0.8044	0.8042	0.8019	0.0513	0.0580	0.0558	0.0515	0.0538	0.0540
0.7999	0.7990	0.7937	0.7955	0.7906	0.7913	0.0574	0.0537	0.0531	0.0541	0.0488	0.0541
0.7860	0.7316	0.7307	0.8310	0.8290	0.8314	0.0637	0.0929	0.0656	0.0723	0.0621	0.0615
0.8218	0.8237	0.8165	0.8197	0.8062	0.8122	0.0536	0.0578	0.0493	0.0531	0.0448	0.0422
0.8107	0.8118	0.8123	0.8091	0.8123	0.8095	0.0478	0.0460	0.0540	0.0505	0.0506	0.0521
AVERAGE	= 0.8024					AVERAGE	= 0.0553				
$R/R_t = 0.630 \quad X/R_t = 0.88 \quad$ POINT NUMBER = 6											
0.8029	0.8106	0.8041	0.8103	0.8005	0.8006	0.0586	0.0594	0.0568	0.0656	0.0595	0.0590
0.8032	0.8033	0.8062	0.7959	0.7961	0.7969	0.0665	0.0576	0.0679	0.0568	0.0608	0.0623
0.7948	0.7560	0.7327	0.8365	0.8316	0.8262	0.0606	0.0852	0.1025	0.0879	0.0729	0.0691
0.8127	0.8258	0.8247	0.8127	0.8243	0.8214	0.0616	0.0613	0.0603	0.0545	0.0611	0.0706
0.8138	0.8108	0.8120	0.8121	0.8200	0.8029	0.0568	0.0496	0.0609	0.0635	0.0609	0.0531
AVERAGE	= 0.8059					AVERAGE	= 0.0629				
$R/R_t = 0.713 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 7											
0.8042	0.7983	0.8001	0.8008	0.7951	0.8005	0.0534	0.0560	0.0610	0.0553	0.0525	0.0603
0.7922	0.7955	0.7973	0.7976	0.8035	0.7980	0.0547	0.0572	0.0603	0.0626	0.0686	0.0686
0.7936	0.7860	0.7336	0.8201	0.8399	0.8232	0.0667	0.0781	0.0987	0.0787	0.0713	0.0668
0.8209	0.8285	0.8127	0.8241	0.8226	0.8226	0.0687	0.0574	0.0561	0.0599	0.0596	0.0568
0.8097	0.8103	0.8148	0.8117	0.8082	0.8039	0.0549	0.0483	0.0537	0.0540	0.0527	0.0539
AVERAGE	= 0.8036					AVERAGE	= 0.0601				
$R/R_t = 0.756 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 8											
0.7915	0.7921	0.7934	0.7923	0.7928	0.7904	0.0659	0.0617	0.0641	0.0597	0.0617	0.0558
0.7972	0.7911	0.7955	0.7942	0.7903	0.7975	0.0651	0.0615	0.0618	0.0641	0.0643	0.0682
0.7942	0.7965	0.7480	0.7870	0.8316	0.8275	0.0685	0.0709	0.1010	0.0678	0.0808	0.0696
0.8205	0.8223	0.8149	0.8169	0.8121	0.8083	0.0627	0.0606	0.0650	0.0566	0.0565	0.0589
0.8095	0.8107	0.8041	0.8099	0.7996	0.7998	0.0581	0.0494	0.0590	0.0516	0.0585	0.0568
AVERAGE	= 0.7995					AVERAGE	= 0.0633				
$R/R_t = 0.798 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 9											
0.7965	0.7945	0.7797	0.7773	0.7811	0.7785	0.0532	0.0474	0.0583	0.0555	0.0601	0.0656
0.7799	0.7766	0.7757	0.7753	0.7788	0.7856	0.0622	0.0647	0.0627	0.0685	0.0683	0.0681
0.7724	0.7958	0.7594	0.7739	0.8219	0.7960	0.0705	0.0809	0.1041	0.0833	0.0824	0.0790
0.7991	0.7865	0.8012	0.8013	0.8020	0.7702	0.0781	0.0723	0.0697	0.0680	0.0653	0.0868
0.8004	0.7998	0.8034	0.7970	0.7925	0.7802	0.0594	0.0611	0.0582	0.0569	0.0593	0.0612
AVERAGE	= 0.7865					AVERAGE	= 0.0666				
$R/R_t = 0.840 \quad X/R_t = 0.87 \quad$ POINT NUMBER = 10											
0.7937	0.7905	0.7957	0.7845	0.7853	0.7879	0.0410	0.0518	0.0429	0.0458	0.0445	0.0502
0.7814	0.7815	0.7840	0.7876	0.7844	0.7908	0.0559	0.0538	0.0565	0.0546	0.0624	0.0601
0.7858	0.7874	0.7632	0.7530	0.8458	0.8291	0.0647	0.0643	0.1029	0.0872	0.0585	0.0552
0.8199	0.8179	0.8035	0.8002	0.8079	0.8030	0.0522	0.0599	0.0443	0.0540	0.0562	0.0517
0.7987	0.7933	0.7963	0.7985	0.7943	0.7882	0.0487	0.0473	0.0486	0.0420	0.0432	0.0464
AVERAGE	= 0.7934					AVERAGE	= 0.0556				

TABLE V. - Continued.

(19) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.880 \quad X/R_t = 0.87$ POINT NUMBER = 11											
0.7866	0.7808	0.7836	0.7873	0.7886	0.7759	0.0427	0.0531	0.0308	0.0432	0.0471	0.0519
0.7790	0.7826	0.7805	0.7856	0.7826	0.7789	0.0476	0.0500	0.0592	0.0562	0.0493	0.0524
0.7760	0.7855	0.7780	0.7334	0.8531	0.8236	0.0621	0.0669	0.0989	0.1026	0.0550	0.0445
0.8308	0.8111	0.8229	0.7851	0.8019	0.7928	0.0621	0.0492	0.0371	0.0566	0.0456	0.0519
0.8033	0.8029	0.8031	0.7952	0.7991	0.7916	0.0485	0.0433	0.0478	0.0387	0.0405	0.0371
AVERAGE	= 0.7925					AVERAGE	= 0.0524				
$R/R_t = 0.920 \quad X/R_t = 0.87$ POINT NUMBER = 12											
0.7909	0.7737	0.7837	0.7840	0.7862	0.7887	0.0413	0.0513	0.0346	0.0369	0.0364	0.0351
0.7807	0.7850	0.7806	0.7825	0.7777	0.7794	0.0430	0.0494	0.0447	0.0500	0.0461	0.0534
0.7826	0.7796	0.7840	0.7568	0.8486	0.8411	0.0580	0.0590	0.0981	0.1048	0.0414	0.0465
0.8270	0.8219	0.8197	0.8066	0.8113	0.8040	0.0444	0.0516	0.0448	0.0473	0.0389	0.0362
0.7978	0.7892	0.7942	0.7762	0.7893	0.7780	0.0337	0.0355	0.0328	0.0545	0.0576	0.0449
AVERAGE	= 0.7929					AVERAGE	= 0.0495				
$R/R_t = 0.960 \quad X/R_t = 0.87$ POINT NUMBER = 13											
0.7863	0.7817	0.7739	0.7831	0.7862	0.7674	0.0286	0.0356	0.0343	0.0349	0.0323	0.0525
0.7769	0.7757	0.7751	0.7808	0.7717	0.7761	0.0327	0.0439	0.0447	0.0465	0.0548	0.0400
0.7923	0.7854	0.7887	0.7517	0.8319	0.8176	0.0554	0.0617	0.0673	0.1145	0.0560	0.0296
0.8075	0.8168	0.8073	0.7968	0.8016	0.7927	0.0560	0.0366	0.0378	0.0440	0.0379	0.0426
0.7931	0.7825	0.7808	0.7876	0.7846	0.7929	0.0370	0.0371	0.0411	0.0321	0.0405	0.0362
AVERAGE	= 0.7867					AVERAGE	= 0.0436				
$R/R_t = 0.998 \quad X/R_t = 0.86$ POINT NUMBER = 1											
0.7818	0.7754	0.7845	0.7793	0.7817	0.7776	0.0340	0.0340	0.0287	0.0334	0.0285	0.0367
0.7718	0.7690	0.7781	0.7737	0.7739	0.7746	0.0348	0.0442	0.0377	0.0410	0.0305	0.0356
0.7819	0.7772	0.7951	0.7844	0.8456	0.8287	0.0427	0.0485	0.0538	0.0852	0.0408	0.0222
0.8087	0.8113	0.7939	0.7951	0.7990	0.7817	0.0272	0.0246	0.0291	0.0209	0.0196	0.0274
0.7794	0.7864	0.7926	0.7792	0.7753	0.7843	0.0319	0.0321	0.0246	0.0282	0.0326	0.0283
AVERAGE	= 0.7866					AVERAGE	= 0.0338				
$R/R_t = 1.041 \quad X/R_t = 0.86$ POINT NUMBER = 2											
0.7740	0.7719	0.7784	0.7825	0.7799	0.7718	0.0290	0.0284	0.0219	0.0216	0.0337	0.0293
0.7749	0.7759	0.7675	0.7737	0.7739	0.7756	0.0285	0.0289	0.0291	0.0317	0.0309	0.0301
0.7596	0.7556	0.7668	0.7105	0.6382	0.7156	0.0422	0.0282	-0.0012	-0.0415	-0.0576	-0.0737
0.7652	0.7796	0.7767	0.7790	0.7746	0.7758	-0.0198	0.0028	0.0005	0.0029	0.0214	0.0209
0.7766	0.7788	0.7457	0.7743	0.7796	0.7720	0.0180	0.0196	0.0355	0.0280	0.0245	0.0256
AVERAGE	= 0.7605					AVERAGE	= 0.0094				
$R/R_t = 1.083 \quad X/R_t = 0.86$ POINT NUMBER = 3											
0.7723	0.7708	0.7800	0.7599	0.7743	0.7728	0.0184	0.0262	0.0222	0.0326	0.0237	0.0217
0.7719	0.7744	0.7710	0.7709	0.7706	0.7670	0.0249	0.0189	0.0263	0.0225	0.0214	0.0245
0.7698	0.7629	0.7552	0.7582	0.7479	0.7580	0.0190	0.0070	-0.0028	-0.0261	-0.0323	-0.0217
0.7558	0.7658	0.7479	0.7591	0.7789	0.7719	-0.0199	-0.0062	0.0165	0.0161	0.0008	0.0149
0.7739	0.7658	0.7741	0.7680	0.7605	0.7680	0.0013	0.0242	0.0131	0.0224	0.0345	0.0281
AVERAGE	= 0.7633					AVERAGE	= 0.0096				
$R/R_t = 1.124 \quad X/R_t = 0.86$ POINT NUMBER = 4											
0.7658	0.7631	0.7622	0.7519	0.7700	0.7637	0.0280	0.0323	0.0332	0.0344	0.0142	0.0187
0.7751	0.7663	0.7619	0.7632	0.7658	0.7663	0.0264	0.0242	0.0304	0.0288	0.0230	0.0203
0.7708	0.7627	0.7670	0.7660	0.7717	0.7675	0.0121	0.0076	0.0109	-0.0014	-0.0146	-0.0090
0.7786	0.7606	0.7665	0.7640	0.7749	0.7496	-0.0188	0.0017	0.0090	0.0088	0.0027	0.0249
0.7654	0.7708	0.7681	0.7736	0.7647	0.7520	0.0121	0.0141	0.0156	0.0241	0.0156	0.0344
AVERAGE	= 0.7647					AVERAGE	= 0.0147				
$R/R_t = 1.164 \quad X/R_t = 0.86$ POINT NUMBER = 5											
0.7652	0.7647	0.7703	0.7680	0.7541	0.7715	0.0173	0.0167	0.0164	0.0188	0.0262	0.0168
0.7688	0.7628	0.7567	0.7523	0.7566	0.7642	0.0210	0.0189	0.0284	0.0284	0.0238	0.0226
0.7589	0.7672	0.7553	0.7617	0.7604	0.7650	0.0219	0.0167	0.0212	0.0118	0.0069	-0.0026
0.7636	0.7631	0.7613	0.7720	0.7650	0.7612	0.0047	-0.0005	0.0121	-0.0017	0.0031	0.0134
0.7715	0.7601	0.7602	0.7549	0.7673	0.7571	0.0102	0.0205	0.0216	0.0267	0.0117	0.0325
AVERAGE	= 0.7612					AVERAGE	= 0.0169				

TABLE V. - Continued.

(19) Concluded.

AXIAL VELOCITY										TANGENTIAL VELOCITY					
$R/R_t = 1.204 \quad X/R_t = 0.86$										POINT NUMBER = 6					
0.7596	0.7464	0.7545	0.7562	0.7598	0.7543	0.0178	0.0440	0.0271	0.0220	0.0164	0.0238				
0.7623	0.7643	0.7508	0.7664	0.7594	0.7425	0.0199	0.0198	0.0308	0.0122	0.0242	0.0339				
0.7625	0.7624	0.7741	0.7603	0.7487	0.7550	0.0196	0.0227	0.0054	0.0138	0.0183	0.0190				
0.7586	0.7429	0.7713	0.7504	0.7651	0.7715	0.0091	0.0288	0.0038	0.0142	0.0088	0.0029				
0.7672	0.7542	0.7597	0.7630	0.7500	0.7540	0.0116	0.0153	0.0219	0.0155	0.0281	0.0237				
AVERAGE = 0.7575										AVERAGE = 0.0192					
$R/R_t = 1.244 \quad X/R_t = 0.86$										POINT NUMBER = 7					
0.7596	0.7647	0.7608	0.7552	0.7648	0.7573	0.0172	0.0106	0.0215	0.0274	0.0128	0.0233				
0.7584	0.7545	0.7629	0.7596	0.7555	0.7576	0.0241	0.0201	0.0160	0.0192	0.0246	0.0186				
0.7532	0.7625	0.7586	0.7550	0.7567	0.7550	0.0233	0.0156	0.0174	0.0221	0.0108	0.0166				
0.7595	0.7552	0.7681	0.7701	0.7440	0.7643	0.0156	0.0157	0.0064	0.0028	0.0295	0.0090				
0.7495	0.7545	0.7491	0.7616	0.7532	0.7628	0.0210	0.0261	0.0263	0.0199	0.0219	0.0156				
AVERAGE = 0.7579										AVERAGE = 0.0183					
$R/R_t = 1.284 \quad X/R_t = 0.86$										POINT NUMBER = 8					
0.7765	0.7695	0.7674	0.7691	0.7634	0.7680	0.0030	0.0116	0.0121	0.0072	0.0102	0.0114				
0.7601	0.7695	0.7638	0.7675	0.7634	0.7699	0.0197	0.0145	0.0111	0.0110	0.0137	0.0112				
0.7651	0.7623	0.7622	0.7711	0.7674	0.7740	0.0187	0.0147	-0.0002	0.0061	0.0120	0.0037				
0.7674	0.7649	0.7728	0.7600	0.7683	0.7726	-0.0013	0.0086	-0.0000	0.0058	-0.0029	0.0021				
0.7751	0.7740	0.7794	0.7825	0.7743	0.7738	0.0005	-0.0032	-0.0015	0.0020	0.0049	0.0009				
AVERAGE = 0.7684										AVERAGE = 0.0074					
$R/R_t = 1.322 \quad X/R_t = 0.85$										POINT NUMBER = 9					
0.7690	0.7688	0.7713	0.7684	0.7725	0.7710	0.0055	0.0110	0.0028	0.0122	0.0117	0.0050				
0.7701	0.7745	0.7623	0.7704	0.7731	0.7733	0.0076	0.0067	0.0104	0.0070	0.0088	0.0104				
0.7656	0.7671	0.7687	0.7680	0.7680	0.7677	0.0150	0.0083	0.0080	0.0072	0.0021	0.0096				
0.7673	0.7720	0.7689	0.7671	0.7674	0.7678	0.0092	-0.0013	0.0057	0.0025	0.0031	0.0068				
0.7792	0.7838	0.7797	0.7767	0.7763	0.7668	0.0027	-0.0022	0.0014	-0.0021	-0.0015	0.0058				
AVERAGE = 0.7703										AVERAGE = 0.0063					
$R/R_t = 1.363 \quad X/R_t = 0.85$										POINT NUMBER = 10					
0.7714	0.7787	0.7730	0.7716	0.7696	0.7697	0.0062	0.0009	0.0057	0.0040	0.0126	0.0076				
0.7671	0.7631	0.7665	0.7656	0.7744	0.7648	0.0102	0.0083	0.0108	0.0085	0.0089	0.0094				
0.7709	0.7661	0.7637	0.7561	0.7715	0.7717	0.0098	0.0137	0.0140	0.0129	0.0126	0.0059				
0.7662	0.7638	0.7682	0.7744	0.7678	0.7668	0.0005	0.0094	0.0071	0.0057	0.0062	0.0066				
0.7710	0.7674	0.7748	0.7737	0.7846	0.7781	0.0027	0.0017	-0.0039	-0.0023	-0.0028	0.0024				
AVERAGE = 0.7692										AVERAGE = 0.0068					
$R/R_t = 1.402 \quad X/R_t = 0.85$										POINT NUMBER = 11					
0.7790	0.7831	0.7822	0.7724	0.7772	0.7769	-0.0057	-0.0016	-0.0036	0.0031	0.0086	0.0059				
0.7679	0.7623	0.7721	0.7685	0.7692	0.7676	0.0103	0.0068	0.0038	0.0087	0.0081	0.0038				
0.7636	0.7580	0.7699	0.7668	0.7623	0.7666	-0.0019	0.0101	0.0071	0.0035	0.0054	0.0124				
0.7594	0.7670	0.7692	0.7640	0.7728	0.7775	0.0165	-0.0033	0.0064	0.0013	0.0050	0.0007				
0.7720	0.7779	0.7708	0.7686	0.7694	0.7638	-0.0011	0.0003	0.0046	0.0029	0.0053	0.0123				
AVERAGE = 0.7692										AVERAGE = 0.0051					
$R/R_t = 1.479 \quad X/R_t = 0.85$										POINT NUMBER = 12					
0.7638	0.7697	0.7725	0.7774	0.7793	0.7680	0.0019	0.0014	-0.0039	-0.0103	-0.0062	0.0081				
0.7642	0.7642	0.7583	0.7663	0.7579	0.7602	0.0099	0.0029	0.0038	-0.0003	0.0139	0.0166				
0.7605	0.7576	0.7633	0.7558	0.7609	0.7626	0.0093	0.0192	0.0121	0.0083	0.0052	0.0043				
0.7641	0.7666	0.7591	0.7598	0.7648	0.7727	0.0094	0.0063	0.0093	0.0091	0.0034	0.0018				
0.7484	0.7600	0.7695	0.7657	0.7671	0.7659	0.0199	0.0164	0.0033	0.0079	0.0102	0.0084				
AVERAGE = 0.7638										AVERAGE = 0.0071					
$R/R_t = 1.560 \quad X/R_t = 0.85$										POINT NUMBER = 13					
0.7630	0.7553	0.7504	0.7633	0.7653	0.7698	0.0005	0.0174	0.0196	0.0089	0.0120	-0.0020				
0.7737	0.7692	0.7657	0.7729	0.7552	0.7650	-0.0111	-0.0004	-0.0061	0.0013	0.0179	0.0064				
0.7656	0.7619	0.7663	0.7620	0.7699	0.7677	0.0071	0.0073	0.0084	0.0048	0.0030	0.0019				
0.7642	0.7658	0.7625	0.7675	0.7655	0.7691	0.0028	0.0053	0.0025	-0.0027	0.0049	-0.0000				
0.7549	0.7718	0.7595	0.7589	0.7685	0.7693	0.0075	0.0030	0.0047	0.0103	0.0038	-0.0035				
AVERAGE = 0.7647										AVERAGE = 0.0046					

TABLE V. - Continued.

(20) Exit velocity for powered operation: nominal $X/R_t = 0.89$; $A_T = 345.28 \text{ m/s}$ (1132.8 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.380 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 2$											
0.7708	0.7724	0.7719	0.7793	0.7673	0.7601	0.1357	0.1451	0.1344	0.1253	0.1381	0.1378
0.7458	0.7369	0.7406	0.7625	0.7705	0.7739	0.1273	0.1328	0.0998	0.1489	0.1864	0.1847
0.7696	0.7685	0.7674	0.7685	0.7767	0.7703	0.1930	0.1835	0.1866	0.1919	0.1796	0.1788
0.7820	0.7759	0.7804	0.7785	0.7738	0.7805	0.1748	0.1650	0.1697	0.1453	0.1607	0.1486
0.7859	0.7812	0.7748	0.7819	0.7815	0.7746	0.1609	0.1487	0.1465	0.1480	0.1548	0.1517
AVERAGE = 0.7702						AVERAGE = 0.1570					
$R/R_t = 0.420 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 3$											
0.7918	0.7820	0.7912	0.7874	0.7895	0.7826	0.1107	0.1114	0.1128	0.1117	0.1027	0.1050
0.7787	0.7595	0.7599	0.7901	0.8086	0.8064	0.0999	0.1005	0.1150	0.1377	0.1531	0.1563
0.8044	0.7962	0.8070	0.7984	0.7977	0.7914	0.1496	0.1368	0.1528	0.1335	0.1382	0.1348
0.7934	0.8034	0.7939	0.7977	0.7933	0.7953	0.1320	0.1393	0.1295	0.1262	0.1236	0.1316
0.7866	0.7880	0.7961	0.7872	0.7861	0.7948	0.1227	0.1237	0.1234	0.1163	0.1143	0.1186
AVERAGE = 0.7912						AVERAGE = 0.1249					
$R/R_t = 0.460 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 4$											
0.7880	0.7903	0.7895	0.7895	0.7898	0.7858	0.0898	0.0885	0.0930	0.0922	0.0922	0.0942
0.7705	0.7615	0.7654	0.7813	0.8093	0.8042	0.0899	0.0919	0.1058	0.1000	0.1358	0.1246
0.8055	0.8049	0.8062	0.8038	0.8016	0.8043	0.1302	0.1206	0.1214	0.1169	0.1144	0.1174
0.7964	0.8008	0.7966	0.7983	0.7933	0.7817	0.1066	0.1066	0.1069	0.1085	0.1064	0.0895
0.7922	0.7933	0.7880	0.7896	0.7890	0.7936	0.0950	0.1111	0.0959	0.0994	0.1014	0.0976
AVERAGE = 0.7924						AVERAGE = 0.1043					
$R/R_t = 0.510 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 5$											
0.7915	0.7919	0.7907	0.7847	0.7875	0.7858	0.0869	0.0869	0.0779	0.0768	0.0831	0.0797
0.7735	0.7519	0.7647	0.7852	0.8030	0.8149	0.0851	0.0890	0.0888	0.0968	0.1213	0.1138
0.8123	0.8101	0.8041	0.8082	0.7992	0.8011	0.1115	0.1110	0.1002	0.1035	0.0937	0.1003
0.7996	0.8004	0.7883	0.7973	0.8003	0.7944	0.0953	0.0917	0.0822	0.0893	0.1016	0.0855
0.7992	0.7914	0.7914	0.7918	0.7947	0.7970	0.0911	0.0913	0.0879	0.0918	0.0886	0.0859
AVERAGE = 0.7931						AVERAGE = 0.0931					
$R/R_t = 0.510 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 6$											
0.7882	0.7888	0.7925	0.7891	0.7898	0.7728	0.0841	0.0821	0.0845	0.0825	0.0887	0.0871
0.7675	0.7567	0.7567	0.7922	0.8115	0.8114	0.0779	0.0765	0.0770	0.1146	0.1176	0.1107
0.8106	0.8055	0.8032	0.8060	0.7988	0.8019	0.1103	0.1006	0.0948	0.1008	0.0916	0.0984
0.8048	0.7981	0.7926	0.7963	0.7978	0.7948	0.0960	0.0938	0.0847	0.0936	0.0924	0.0892
0.7971	0.7943	0.7893	0.7896	0.7897	0.7879	0.0926	0.0840	0.0848	0.0987	0.0817	0.0877
AVERAGE = 0.7921						AVERAGE = 0.0914					
$R/R_t = 0.550 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 7$											
0.7924	0.7914	0.7901	0.7937	0.7888	0.7857	0.0748	0.0728	0.0819	0.0727	0.0745	0.0723
0.7737	0.7511	0.7301	0.7861	0.8221	0.8144	0.0727	0.0706	0.0671	0.0940	0.1020	0.0915
0.8130	0.8103	0.8133	0.8090	0.8097	0.8023	0.0982	0.0929	0.0929	0.0915	0.0877	0.0828
0.7981	0.8027	0.8038	0.8061	0.7989	0.8000	0.0817	0.0867	0.0870	0.0893	0.0821	0.0808
0.7972	0.7974	0.7979	0.7912	0.7932	0.7923	0.0789	0.0788	0.0817	0.0774	0.0838	0.0847
AVERAGE = 0.7943						AVERAGE = 0.0825					
$R/R_t = 0.590 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 8$											
0.7944	0.7960	0.7938	0.8008	0.7956	0.7944	0.0762	0.0690	0.0657	0.0643	0.0654	0.0611
0.7707	0.7549	0.7359	0.7379	0.7960	0.8171	0.0673	0.0733	0.0586	0.0627	0.0858	0.0877
0.8166	0.8129	0.8099	0.8150	0.8057	0.8074	0.0873	0.0818	0.0750	0.0787	0.0719	0.0761
0.8050	0.8045	0.8046	0.8023	0.7971	0.7961	0.0707	0.0718	0.0751	0.0708	0.0687	0.0616
0.7958	0.7980	0.7981	0.7969	0.7998	0.7982	0.0743	0.0681	0.0728	0.0699	0.0692	0.0677
AVERAGE = 0.7941						AVERAGE = 0.0725					
$R/R_t = 0.640 \quad X/R_t = 0.89 \quad \text{POINT NUMBER} = 9$											
0.7946	0.7951	0.7947	0.7904	0.7960	0.7943	0.0599	0.0626	0.0679	0.0556	0.0605	0.0610
0.7887	0.7580	0.7207	0.7489	0.8076	0.8109	0.0531	0.0552	0.0656	0.0757	0.0731	0.0755
0.8201	0.8114	0.8135	0.8060	0.8072	0.7990	0.0704	0.0679	0.0674	0.0666	0.0614	0.0614
0.8052	0.8018	0.8025	0.8000	0.7996	0.7985	0.0642	0.0620	0.0636	0.0689	0.0662	0.0666
0.8014	0.7980	0.7985	0.7969	0.7925	0.7965	0.0674	0.0621	0.0617	0.0675	0.0634	0.0634
AVERAGE = 0.7935						AVERAGE = 0.0637					

TABLE V. - Continued.

(20) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.680 \quad X/R_t = 0.89$						POINT NUMBER = 10					
0.7893	0.7927	0.7919	0.7892	0.7880	0.7887	0.0553	0.0599	0.0552	0.0556	0.0644	0.0551
0.7899	0.7670	0.7418	0.7194	0.7599	0.8199	0.0531	0.0584	0.0562	0.0490	0.0838	0.0617
0.8139	0.8138	0.8101	0.8057	0.8029	0.8040	0.0582	0.0553	0.0599	0.0553	0.0563	0.0582
0.8015	0.8038	0.7990	0.8003	0.7986	0.7999	0.0578	0.0560	0.0587	0.0578	0.0584	0.0576
0.8001	0.7971	0.7991	0.7952	0.7957	0.7933	0.0636	0.0576	0.0591	0.0552	0.0561	0.0580
AVERAGE	= 0.7910					AVERAGE	= 0.0573				
$R/R_t = 0.720 \quad X/R_t = 0.89$						POINT NUMBER = 11					
0.7950	0.7935	0.7912	0.7925	0.7927	0.7872	0.0528	0.0524	0.0520	0.0494	0.0490	0.0538
0.7883	0.7748	0.7444	0.7371	0.7560	0.8188	0.0566	0.0570	0.0569	0.0549	0.0724	0.0522
0.8181	0.8119	0.8126	0.8080	0.8035	0.8061	0.0461	0.0485	0.0487	0.0480	0.0516	0.0471
0.8052	0.8002	0.8012	0.7995	0.8013	0.8000	0.0546	0.0522	0.0546	0.0501	0.0550	0.0552
0.7962	0.7977	0.7931	0.7954	0.7975	0.7934	0.0536	0.0561	0.0512	0.0532	0.0532	0.0540
AVERAGE	= 0.7911					AVERAGE	= 0.0530				
$R/R_t = 0.770 \quad X/R_t = 0.89$						POINT NUMBER = 12					
0.7941	0.7918	0.7934	0.7891	0.7905	0.7890	0.0468	0.0494	0.0495	0.0471	0.0492	0.0501
0.7891	0.7831	0.7494	0.7118	0.7101	0.8200	0.0431	0.0508	0.0570	0.0615	0.0566	0.0416
0.8144	0.8113	0.8151	0.8165	0.8081	0.8076	0.0372	0.0411	0.0425	0.0398	0.0484	0.0437
0.8053	0.8021	0.8027	0.8020	0.8043	0.8000	0.0445	0.0449	0.0462	0.0475	0.0522	0.0478
0.7936	0.7942	0.7975	0.7925	0.7937	0.7893	0.0503	0.0479	0.0528	0.0516	0.0513	0.0515
AVERAGE	= 0.7874					AVERAGE	= 0.0486				
$R/R_t = 0.810 \quad X/R_t = 0.89$						POINT NUMBER = 13					
0.7885	0.7858	0.7845	0.7879	0.7816	0.7872	0.0461	0.0433	0.0441	0.0460	0.0496	0.0464
0.7812	0.7782	0.7491	0.7363	0.7319	0.8031	0.0465	0.0438	0.0521	0.0327	0.0616	0.0538
0.8243	0.8176	0.8165	0.8091	0.8079	0.8072	0.0349	0.0328	0.0335	0.0373	0.0410	0.0454
0.8037	0.8009	0.7979	0.7958	0.7941	0.7956	0.0413	0.0424	0.0411	0.0360	0.0418	0.0430
0.7931	0.7956	0.7913	0.7914	0.7895	0.7910	0.0455	0.0455	0.0449	0.0429	0.0429	0.0485
AVERAGE	= 0.7864					AVERAGE	= 0.0430				
$R/R_t = 0.860 \quad X/R_t = 0.89$						POINT NUMBER = 14					
0.7845	0.7809	0.7842	0.7854	0.7844	0.7831	0.0415	0.0412	0.0461	0.0416	0.0434	0.0452
0.7825	0.7811	0.7693	0.7233	0.7201	0.8136	0.0430	0.0432	0.0475	0.0394	0.0625	0.0414
0.8212	0.8208	0.8197	0.8159	0.8099	0.8084	0.0370	0.0339	0.0297	0.0294	0.0283	0.0342
0.8055	0.8040	0.7981	0.7943	0.7977	0.7963	0.0333	0.0343	0.0426	0.0364	0.0388	0.0387
0.7941	0.7894	0.7787	0.7859	0.7899	0.7877	0.0401	0.0389	0.0490	0.0380	0.0431	0.0432
AVERAGE	= 0.7873					AVERAGE	= 0.0423				
$R/R_t = 0.900 \quad X/R_t = 0.89$						POINT NUMBER = 15					
0.7822	0.7782	0.7820	0.7783	0.7823	0.7775	0.0386	0.0412	0.0444	0.0434	0.0456	0.0347
0.7802	0.7786	0.7627	0.7212	0.7225	0.8023	0.0409	0.0448	0.0481	0.0576	0.0511	0.0343
0.8187	0.8169	0.8143	0.8108	0.8131	0.8114	0.0213	0.0185	0.0242	0.0270	0.0231	0.0242
0.8008	0.8021	0.7973	0.7986	0.7931	0.7940	0.0286	0.0258	0.0311	0.0317	0.0285	0.0367
0.7924	0.7915	0.7858	0.7863	0.7848	0.7819	0.0366	0.0389	0.0346	0.0410	0.0433	0.0383
AVERAGE	= 0.7859					AVERAGE	= 0.0372				
$R/R_t = 0.950 \quad X/R_t = 0.89$						POINT NUMBER = 16					
0.7808	0.7775	0.7752	0.7732	0.7768	0.7772	0.0389	0.0387	0.0405	0.0413	0.0425	0.0464
0.7799	0.7810	0.7781	0.7361	0.7120	0.7977	0.0486	0.0441	0.0433	0.0499	0.0459	0.0259
0.8241	0.8197	0.8146	0.8114	0.8018	0.7977	0.0048	0.0052	0.0071	0.0104	0.0199	0.0214
0.7993	0.7989	0.7950	0.7954	0.7922	0.7879	0.0235	0.0190	0.0200	0.0247	0.0254	0.0274
0.7902	0.7840	0.7823	0.7819	0.7833	0.7802	0.0352	0.0339	0.0312	0.0345	0.0362	0.0376
AVERAGE	= 0.7822					AVERAGE	= 0.0321				
$R/R_t = 0.990 \quad X/R_t = 0.89$						POINT NUMBER = 17					
0.7767	0.7747	0.7718	0.7740	0.7720	0.7724	0.0344	0.0387	0.0380	0.0434	0.0397	0.0441
0.7759	0.7790	0.7785	0.7551	0.7200	0.8205	0.0496	0.0500	0.0507	0.0636	0.0506	-0.0079
0.8289	0.8204	0.8148	0.8067	0.7994	0.7962	-0.0137	-0.0094	-0.0058	0.0041	0.0050	0.0127
0.7927	0.7881	0.7919	0.7912	0.7907	0.7850	0.0183	0.0231	0.0209	0.0171	0.0187	0.0242
0.7844	0.7810	0.7826	0.7810	0.7773	0.7782	0.0226	0.0267	0.0318	0.0268	0.0325	0.0342
AVERAGE	= 0.7817					AVERAGE	= 0.0269				

TABLE V. - Continued.

(20) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.040 \quad X/R_t = 0.89$ POINT NUMBER = 18											
0.7734	0.7698	0.7683	0.7692	0.7716	0.7685	0.0313	0.0360	0.0374	0.0371	0.0410	0.0425
0.7725	0.7680	0.7744	0.7709	0.7321	0.8065	0.0492	0.0456	0.0568	0.0587	0.0583	-0.0213
0.8165	0.8154	0.8040	0.8027	0.7981	0.7911	-0.0264	-0.0260	-0.0138	-0.0055	0.0017	0.0056
0.7905	0.7883	0.7868	0.7795	0.7786	0.7839	0.0079	0.0124	0.0130	0.0217	0.0244	0.0179
0.7847	0.7801	0.7765	0.7750	0.7751	0.7757	0.0201	0.0216	0.0240	0.0240	0.0292	0.0305
AVERAGE = 0.7771						AVERAGE = 0.0218					
$R/R_t = 1.080 \quad X/R_t = 0.89$ POINT NUMBER = 19											
0.7716	0.7700	0.7682	0.7692	0.7644	0.7644	0.0283	0.0329	0.0341	0.0369	0.0384	0.0395
0.7624	0.7632	0.7623	0.7703	0.7640	0.7690	0.0429	0.0452	0.0582	0.0789	0.1059	-0.0454
0.7983	0.7910	0.7895	0.7877	0.7810	0.7842	-0.0581	-0.0348	-0.0200	-0.0116	0.0022	0.0060
0.7851	0.7808	0.7791	0.7795	0.7766	0.7715	0.0059	0.0110	0.0128	0.0154	0.0172	0.0241
0.7708	0.7758	0.7790	0.7765	0.7730	0.7731	0.0302	0.0241	0.0203	0.0282	0.0275	0.0290
AVERAGE = 0.7680						AVERAGE = 0.0251					
$R/R_t = 1.130 \quad X/R_t = 0.89$ POINT NUMBER = 20											
0.7694	0.7692	0.7667	0.7662	0.7666	0.7669	0.0279	0.0314	0.0282	0.0350	0.0354	0.0375
0.7613	0.7594	0.7540	0.7468	0.7398	0.7368	0.0406	0.0446	0.0486	0.0475	0.0416	0.0136
0.7564	0.7693	0.7722	0.7789	0.7754	0.7801	-0.0036	-0.0085	-0.0034	-0.0023	0.0030	0.0060
0.7773	0.7734	0.7736	0.7763	0.7728	0.7752	0.0095	0.0104	0.0161	0.0206	0.0162	0.0214
0.7701	0.7685	0.7669	0.7689	0.7780	0.7772	0.0204	0.0259	0.0275	0.0297	0.0252	0.0260
AVERAGE = 0.7614						AVERAGE = 0.0219					
$R/R_t = 1.180 \quad X/R_t = 0.89$ POINT NUMBER = 21											
0.7650	0.7686	0.7645	0.7661	0.7647	0.7607	0.0295	0.0275	0.0292	0.0322	0.0328	0.0364
0.7634	0.7586	0.7582	0.7548	0.7541	0.7573	0.0373	0.0387	0.0382	0.0377	0.0311	0.0229
0.7634	0.7660	0.7708	0.7725	0.7721	0.7716	0.0162	0.0140	0.0075	0.0081	0.0103	0.0110
0.7685	0.7678	0.7683	0.7691	0.7679	0.7699	0.0113	0.0116	0.0177	0.0169	0.0158	0.0225
0.7673	0.7708	0.7698	0.7670	0.7622	0.7611	0.0208	0.0207	0.0242	0.0255	0.0321	0.0282
AVERAGE = 0.7647						AVERAGE = 0.0230					
$R/R_t = 1.230 \quad X/R_t = 0.89$ POINT NUMBER = 22											
0.7624	0.7604	0.7620	0.7684	0.7678	0.7615	0.0324	0.0303	0.0265	0.0286	0.0314	0.0321
0.7587	0.7598	0.7627	0.7615	0.7624	0.7650	0.0297	0.0350	0.0316	0.0350	0.0345	0.0284
0.7654	0.7670	0.7679	0.7695	0.7654	0.7722	0.0206	0.0176	0.0159	0.0150	0.0180	0.0131
0.7706	0.7682	0.7660	0.7654	0.7692	0.7653	0.0138	0.0182	0.0153	0.0159	0.0184	0.0183
0.7676	0.7676	0.7707	0.7698	0.7662	0.7651	0.0210	0.0188	0.0215	0.0231	0.0267	0.0253
AVERAGE = 0.7657						AVERAGE = 0.0235					
$R/R_t = 1.270 \quad X/R_t = 0.89$ POINT NUMBER = 23											
0.7621	0.7644	0.7578	0.7621	0.7558	0.7653	0.0313	0.0297	0.0328	0.0415	0.0272	0.0301
0.7653	0.7632	0.7603	0.7586	0.7620	0.7637	0.0343	0.0418	0.0313	0.0284	0.0331	0.0297
0.7617	0.7654	0.7656	0.7627	0.7677	0.7712	0.0248	0.0216	0.0212	0.0169	0.0132	0.0160
0.7705	0.7672	0.7726	0.7648	0.7688	0.7654	0.0149	0.0137	0.0184	0.0210	0.0235	0.0174
0.7659	0.7684	0.7678	0.7644	0.7648	0.7684	0.0224	0.0264	0.0263	0.0227	0.0238	0.0273
AVERAGE = 0.7641						AVERAGE = 0.0255					
$R/R_t = 1.320 \quad X/R_t = 0.89$ POINT NUMBER = 24											
0.7633	0.7653	0.7636	0.7608	0.7580	0.7566	0.0238	0.0311	0.0289	0.0337	0.0342	0.0358
0.7600	0.7639	0.7641	0.7646	0.7625	0.7623	0.0354	0.0298	0.0287	0.0330	0.0319	0.0320
0.7632	0.7615	0.7647	0.7683	0.7652	0.7687	0.0280	0.0265	0.0281	0.0253	0.0186	0.0160
0.7707	0.7672	0.7680	0.7700	0.7639	0.7687	0.0171	0.0201	0.0182	0.0158	0.0180	0.0247
0.7677	0.7630	0.7650	0.7666	0.7600	0.7654	0.0231	0.0226	0.0240	0.0262	0.0247	0.0267
AVERAGE = 0.7640						AVERAGE = 0.0259					
$R/R_t = 1.370 \quad X/R_t = 0.89$ POINT NUMBER = 25											
0.7632	0.7635	0.7572	0.7616	0.7649	0.7620	0.0286	0.0306	0.0328	0.0316	0.0323	0.0326
0.7583	0.7538	0.7532	0.7609	0.7614	0.7629	0.0350	0.0372	0.0359	0.0287	0.0305	0.0344
0.7579	0.7607	0.7631	0.7604	0.7626	0.7634	0.0264	0.0250	0.0282	0.0252	0.0234	0.0200
0.7664	0.7692	0.7707	0.7696	0.7661	0.7679	0.0237	0.0157	0.0222	0.0196	0.0206	0.0214
0.7643	0.7677	0.7639	0.7638	0.7637	0.7667	0.0236	0.0249	0.0264	0.0264	0.0261	0.0285
AVERAGE = 0.7624						AVERAGE = 0.0275					

TABLE V. - Continued.

(20) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.420 \quad X/R_t = 0.89$ POINT NUMBER = 26											
0.7637	0.7636	0.7668	0.7618	0.7633	0.7583	0.0262	0.0333	0.0292	0.0300	0.0328	0.0297
0.7587	0.7618	0.7578	0.7528	0.7557	0.7550	0.0306	0.0325	0.0360	0.0386	0.0343	0.0289
0.7572	0.7590	0.7588	0.7626	0.7617	0.7632	0.0224	0.0275	0.0275	0.0278	0.0282	0.0280
0.7594	0.7646	0.7655	0.7661	0.7672	0.7648	0.0246	0.0253	0.0251	0.0228	0.0232	0.0215
0.7588	0.7635	0.7669	0.7645	0.7679	0.7643	0.0263	0.0234	0.0260	0.0245	0.0283	0.0269
AVERAGE = 0.7622						AVERAGE = 0.0282					
$R/R_t = 1.430 \quad X/R_t = 0.89$ POINT NUMBER = 27											
0.7624	0.7612	0.7634	0.7587	0.7622	0.7577	0.0306	0.0292	0.0306	0.0289	0.0335	0.0315
0.7604	0.7545	0.7639	0.7551	0.7564	0.7511	0.0297	0.0289	0.0380	0.0317	0.0328	0.0363
0.7530	0.7574	0.7538	0.7577	0.7589	0.7579	0.0384	0.0267	0.0318	0.0321	0.0268	0.0270
0.7594	0.7636	0.7601	0.7603	0.7636	0.7651	0.0290	0.0301	0.0254	0.0251	0.0222	0.0252
0.7655	0.7671	0.7626	0.7626	0.7623	0.7659	0.0275	0.0263	0.0222	0.0239	0.0297	0.0283
AVERAGE = 0.7597						AVERAGE = 0.0295					
(21) Exit velocity for powered operation: nominal $X/R_t = 1.11; A_T = 338.54 \text{ m/s} (1110.7 \text{ ft/s}); \beta_{3/4} = 60.9^\circ$.											
AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.041 \quad X/R_t = 1.11$ POINT NUMBER = 1											
0.7773	0.7787	0.7708	0.7786	0.7760	0.7710	0.0105	0.0113	0.0058	0.0160	0.0182	0.0194
0.7771	0.7807	0.7765	0.7796	0.7795	0.7765	0.0192	0.0201	0.0210	0.0243	0.0237	0.0185
0.7745	0.7758	0.7760	0.7731	0.7740	0.7725	0.0173	0.0195	0.0194	0.0179	0.0168	0.0167
0.7754	0.7737	0.7716	0.7718	0.7703	0.7598	0.0180	0.0143	0.0119	0.0111	0.0147	0.0203
0.7391	0.7167	0.7286	0.7320	0.7564	0.7697	-0.0066	-0.0418	-0.0286	-0.0357	-0.0109	0.0019
AVERAGE = 0.7704						AVERAGE = 0.0115					
$R/R_t = 0.998 \quad X/R_t = 1.11$ POINT NUMBER = 2											
0.7877	0.7844	0.7832	0.7870	0.7800	0.7789	0.0254	0.0221	0.0225	0.0276	0.0248	0.0229
0.7800	0.7816	0.7780	0.7865	0.7800	0.7798	0.0206	0.0244	0.0259	0.0310	0.0258	0.0250
0.7793	0.7802	0.7774	0.7765	0.7831	0.7764	0.0245	0.0242	0.0232	0.0210	0.0276	0.0273
0.7791	0.7791	0.7878	0.7856	0.7705	0.7901	0.0260	0.0288	0.0390	0.0348	0.0676	0.0646
0.8205	0.8184	0.8174	0.7931	0.7876	0.7876	0.0612	0.0505	0.0528	0.0299	0.0230	0.0247
AVERAGE = 0.7835						AVERAGE = 0.0294					
$R/R_t = 0.960 \quad X/R_t = 1.11$ POINT NUMBER = 3											
0.7945	0.7944	0.7912	0.7973	0.7893	0.7892	0.0320	0.0330	0.0286	0.0385	0.0285	0.0303
0.7843	0.7804	0.7786	0.7873	0.7831	0.7848	0.0269	0.0240	0.0221	0.0321	0.0305	0.0300
0.7794	0.7787	0.7844	0.7791	0.7828	0.7791	0.0241	0.0275	0.0271	0.0273	0.0314	0.0330
0.7777	0.7800	0.7804	0.7925	0.7873	0.8141	0.0297	0.0283	0.0342	0.0538	0.0964	0.0772
0.8559	0.8531	0.8288	0.7983	0.7945	0.7991	0.0928	0.0872	0.0633	0.0382	0.0314	0.0358
AVERAGE = 0.7973						AVERAGE = 0.0432					
$R/R_t = 0.920 \quad X/R_t = 1.11$ POINT NUMBER = 4											
0.8014	0.7998	0.8006	0.7925	0.7934	0.7930	0.0361	0.0380	0.0373	0.0340	0.0294	0.0292
0.7838	0.7872	0.7765	0.7807	0.7809	0.7825	0.0264	0.0271	0.0239	0.0280	0.0266	0.0301
0.7813	0.7823	0.7839	0.7816	0.7803	0.7806	0.0285	0.0278	0.0293	0.0314	0.0299	0.0337
0.7836	0.7769	0.7763	0.7957	0.7743	0.7877	0.0368	0.0342	0.0402	0.0587	0.0994	0.0568
0.8299	0.8253	0.8131	0.8058	0.8050	0.8042	0.0731	0.0588	0.0436	0.0392	0.0384	0.0408
AVERAGE = 0.7917						AVERAGE = 0.0376					
$R/R_t = 0.880 \quad X/R_t = 1.11$ POINT NUMBER = 5											
0.8011	0.7959	0.8023	0.7919	0.7910	0.7917	0.0417	0.0351	0.0403	0.0365	0.0355	0.0330
0.7870	0.7931	0.7896	0.7855	0.7882	0.7816	0.0289	0.0357	0.0410	0.0333	0.0327	0.0302
0.7885	0.7800	0.7803	0.7807	0.7818	0.7714	0.0347	0.0306	0.0302	0.0294	0.0320	0.0211
0.7775	0.7821	0.7678	0.7859	0.7609	0.7934	0.0336	0.0366	0.0309	0.0745	0.0975	0.0619
0.8389	0.8315	0.8144	0.8102	0.8033	0.8035	0.0783	0.0680	0.0460	0.0449	0.0424	0.0397
AVERAGE = 0.7928						AVERAGE = 0.0413					
$R/R_t = 0.840 \quad X/R_t = 1.11$ POINT NUMBER = 6											
0.7982	0.7963	0.7925	0.7927	0.7918	0.7917	0.0363	0.0356	0.0321	0.0325	0.0348	0.0325
0.7927	0.7845	0.7851	0.7800	0.7769	0.7818	0.0366	0.0316	0.0345	0.0284	0.0250	0.0284
0.7791	0.7757	0.7800	0.7757	0.7685	0.7682	0.0260	0.0273	0.0301	0.0276	0.0220	0.0287
0.7699	0.7722	0.7666	0.7631	0.7589	0.7739	0.0261	0.0337	0.0271	0.0732	0.0920	0.0410
0.8184	0.8307	0.8114	0.8009	0.7945	0.7999	0.0576	0.0639	0.0451	0.0362	0.0319	0.0345
AVERAGE = 0.7875						AVERAGE = 0.0367					

TABLE V. - Continued.

(21) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 0.798 \quad X/R_t = 1.12$ POINT NUMBER = 7											
0.7889	0.7909	0.7918	0.7879	0.7923	0.7927	0.0301	0.0284	0.0331	0.0321	0.0346	0.0362
0.7940	0.7850	0.7857	0.7813	0.7773	0.7748	0.0353	0.0308	0.0310	0.0326	0.0232	0.0257
0.7871	0.7713	0.7691	0.7681	0.7679	0.7716	0.0339	0.0189	0.0239	0.0227	0.0229	0.0267
0.7705	0.7647	0.7710	0.7620	0.7507	0.7708	0.0327	0.0257	0.0330	0.0763	0.0764	0.0438
0.8003	0.8243	0.8016	0.8016	0.7873	0.7902	0.0444	0.0592	0.0355	0.0361	0.0250	0.0262
AVERAGE	= 0.7836					AVERAGE	= 0.0340				
$R/R_t = 1.164 \quad X/R_t = 1.10$ POINT NUMBER = 8											
0.7575	0.7595	0.7632	0.7631	0.7705	0.7618	-0.0058	0.0033	0.0059	0.0100	0.0093	0.0083
0.7638	0.7689	0.7692	0.7681	0.7701	0.7704	0.0105	0.0113	0.0130	0.0088	0.0108	0.0136
0.7745	0.7688	0.7731	0.7727	0.7654	0.7650	0.0120	0.0038	0.0096	0.0088	0.0049	-0.0023
0.7638	0.7637	0.7621	0.7612	0.7597	0.7547	0.0008	-0.0038	-0.0035	-0.0051	-0.0065	-0.0086
0.7548	0.7510	0.7524	0.7533	0.7587	0.7583	-0.0101	-0.0129	-0.0100	-0.0064	-0.0014	-0.0026
AVERAGE	= 0.7628					AVERAGE	= 0.0017				
$R/R_t = 1.124 \quad X/R_t = 1.11$ POINT NUMBER = 9											
0.7632	0.7611	0.7672	0.7651	0.7681	0.7661	0.0034	0.0006	0.0087	0.0082	0.0074	0.0125
0.7685	0.7688	0.7692	0.7674	0.7732	0.7708	0.0128	0.0124	0.0136	0.0105	0.0167	0.0148
0.7673	0.7729	0.7717	0.7710	0.7732	0.7654	0.0126	0.0096	0.0048	0.0066	0.0079	0.0015
0.7679	0.7635	0.7561	0.7568	0.7505	0.7512	0.0041	0.0025	-0.0045	-0.0069	-0.0104	-0.0124
0.7456	0.7481	0.7451	0.7485	0.7525	0.7569	-0.0158	-0.0122	-0.0169	-0.0145	-0.0081	-0.0044
AVERAGE	= 0.7617					AVERAGE	= 0.0014				
$R/R_t = 1.083 \quad X/R_t = 1.11$ POINT NUMBER = 10											
0.7638	0.7653	0.7674	0.7722	0.7677	0.7703	0.0031	0.0044	0.0076	0.0145	0.0142	0.0135
0.7683	0.7730	0.7721	0.7739	0.7746	0.7766	0.0152	0.0164	0.0181	0.0158	0.0205	0.0215
0.7727	0.7739	0.7773	0.7730	0.7680	0.7672	0.0178	0.0144	0.0164	0.0099	0.0043	0.0048
0.7704	0.7658	0.7689	0.7570	0.7447	0.7379	0.0053	0.0061	0.0056	-0.0032	-0.0137	-0.0230
0.7182	0.7066	0.7078	0.7336	0.7471	0.7631	-0.0405	-0.0517	-0.0533	-0.0319	-0.0192	0.0007
AVERAGE	= 0.7550					AVERAGE	= -0.0046				
$R/R_t = 1.204 \quad X/R_t = 1.10$ POINT NUMBER = 11											
0.7562	0.7597	0.7609	0.7641	0.7628	0.7613	-0.0001	0.0008	0.0012	0.0056	0.0044	0.0048
0.7641	0.7625	0.7669	0.7613	0.7696	0.7656	0.0121	0.0120	0.0149	0.0069	0.0118	0.0074
0.7673	0.7696	0.7704	0.7742	0.7674	0.7628	0.0049	0.0069	0.0028	-0.0005	0.0018	-0.0040
0.7658	0.7601	0.7627	0.7600	0.7625	0.7581	-0.0005	-0.0058	-0.0002	-0.0049	-0.0047	-0.0045
0.7602	0.7575	0.7551	0.7561	0.7542	0.7578	-0.0051	-0.0053	-0.0007	-0.0068	-0.0057	-0.0030
AVERAGE	= 0.7622					AVERAGE	= 0.0014				
$R/R_t = 1.244 \quad X/R_t = 1.10$ POINT NUMBER = 12											
0.7579	0.7560	0.7567	0.7581	0.7632	0.7605	-0.0016	-0.0012	0.0014	0.0050	0.0054	0.0102
0.7571	0.7595	0.7592	0.7602	0.7608	0.7640	0.0048	0.0078	0.0122	0.0123	0.0064	0.0040
0.7651	0.7692	0.7710	0.7662	0.7650	0.7632	0.0054	0.0068	0.0047	-0.0023	-0.0034	-0.0050
0.7672	0.7608	0.7595	0.7605	0.7567	0.7588	-0.0040	-0.0059	-0.0090	-0.0032	-0.0077	-0.0000
0.7557	0.7529	0.7565	0.7548	0.7582	0.7556	-0.0055	-0.0077	-0.0045	-0.0014	-0.0035	0.0010
AVERAGE	= 0.7599					AVERAGE	= 0.0005				
$R/R_t = 1.284 \quad X/R_t = 1.10$ POINT NUMBER = 13											
0.7551	0.7539	0.7528	0.7595	0.7533	0.7639	-0.0020	-0.0012	-0.0016	0.0031	-0.0036	0.0101
0.7526	0.7544	0.7633	0.7576	0.7555	0.7629	-0.0034	0.0014	0.0148	0.0095	0.0011	0.0072
0.7646	0.7658	0.7632	0.7647	0.7733	0.7682	-0.0008	0.0040	0.0045	0.0019	-0.0029	-0.0051
0.7648	0.7665	0.7616	0.7573	0.7605	0.7541	-0.0031	0.0005	-0.0065	-0.0095	-0.0051	-0.0103
0.7494	0.7592	0.7603	0.7547	0.7572	0.7570	-0.0100	-0.0005	0.0030	-0.0043	-0.0041	0.0020
AVERAGE	= 0.7596					AVERAGE	= -0.0004				
$R/R_t = 1.322 \quad X/R_t = 1.10$ POINT NUMBER = 14											
0.7587	0.7493	0.7588	0.7605	0.7544	0.7619	0.0018	-0.0075	-0.0000	0.0054	-0.0045	0.0020
0.7579	0.7585	0.7568	0.7548	0.7521	0.7617	0.0023	0.0045	0.0032	0.0046	0.0079	0.0053
0.7573	0.7650	0.7630	0.7686	0.7656	0.7668	-0.0014	0.0018	0.0068	0.0022	-0.0070	-0.0079
0.7719	0.7684	0.7632	0.7591	0.7579	0.7535	-0.0106	-0.0063	-0.0071	-0.0052	-0.0061	-0.0070
0.7571	0.7611	0.7563	0.7571	0.7551	0.7510	-0.0033	-0.0036	-0.0066	-0.0023	-0.0043	-0.0032
AVERAGE	= 0.7593					AVERAGE	= -0.0012				

TABLE V. - Continued.

(21) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$R/R_t = 1.363 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 15											
0.7525	0.7569	0.7528	0.7519	0.7493	0.7583	-0.0044	-0.0015	-0.0042	-0.0074	-0.0046	0.0015
0.7608	0.7410	0.7575	0.7541	0.7560	0.7562	0.0041	-0.0157	0.0061	0.0050	0.0090	0.0051
0.7511	0.7612	0.7603	0.7570	0.7547	0.7589	0.0035	0.0033	-0.0040	-0.0055	-0.0073	-0.0086
0.7601	0.7660	0.7621	0.7591	0.7600	0.7564	-0.0158	-0.0211	-0.0140	-0.0122	-0.0060	-0.0102
0.7570	0.7519	0.7565	0.7436	0.7528	0.7464	-0.0041	-0.0070	-0.0014	-0.0126	-0.0014	-0.0108
AVERAGE = 0.7550						AVERAGE = -0.0050					
$R/R_t = 1.402 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 16											
0.7547	0.7568	0.7424	0.7566	0.7547	0.7504	-0.0048	0.0014	-0.0158	-0.0020	-0.0023	-0.0025
0.7584	0.7542	0.7624	0.7479	0.7514	0.7456	0.0029	-0.0076	-0.0011	-0.0129	-0.0009	-0.0031
0.7521	0.7483	0.7538	0.7548	0.7540	0.7481	0.0039	-0.0014	-0.0063	-0.0056	-0.0094	-0.0185
0.7596	0.7533	0.7682	0.7674	0.7636	0.7525	-0.0086	-0.0212	-0.0185	-0.0156	-0.0100	-0.0127
0.7547	0.7494	0.7568	0.7543	0.7560	0.7514	-0.0121	-0.0116	-0.0040	-0.0042	-0.0004	-0.0055
AVERAGE = 0.7543						AVERAGE = -0.0068					
$R/R_t = 1.478 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 17											
0.7576	0.7562	0.7601	0.7571	0.7586	0.7621	-0.0034	-0.0045	-0.0058	-0.0081	-0.0037	-0.0051
0.7577	0.7586	0.7593	0.7575	0.7575	0.7599	0.0052	-0.0017	0.0022	-0.0017	0.0004	-0.0001
0.7565	0.7582	0.7535	0.7536	0.7592	0.7585	0.0043	0.0032	0.0037	0.0055	0.0031	-0.0029
0.7662	0.7653	0.7624	0.7558	0.7679	0.7682	-0.0024	-0.0065	-0.0067	-0.0201	-0.0088	-0.0156
0.7655	0.7620	0.7595	0.7575	0.7539	0.7570	-0.0132	-0.0077	0.0014	-0.0057	-0.0039	-0.0016
AVERAGE = 0.7595						AVERAGE = -0.0034					
$R/R_t = 1.560 \quad X/R_t = 1.10 \quad$ POINT NUMBER = 18											
0.7607	0.7587	0.7563	0.7611	0.7568	0.7556	-0.0050	-0.0028	-0.0063	0.0001	-0.0043	-0.0053
0.7591	0.7558	0.7556	0.7569	0.7586	0.7562	0.0009	-0.0037	-0.0023	-0.0027	-0.0013	-0.0035
0.7595	0.7584	0.7550	0.7556	0.7578	0.7525	0.0002	-0.0022	-0.0035	-0.0024	0.0043	0.0019
0.7533	0.7571	0.7609	0.7595	0.7557	0.7599	0.0002	-0.0014	-0.0039	-0.0051	-0.0095	-0.0051
0.7610	0.7585	0.7648	0.7698	0.7652	0.7637	-0.0069	-0.0126	-0.0128	-0.0139	-0.0081	-0.0086
AVERAGE = 0.7586						AVERAGE = -0.0041					
$R/R_t = 0.792 \quad X/R_t = 1.12 \quad$ POINT NUMBER = 19											
0.8028	0.8021	0.7959	0.7960	0.7908	0.7985	0.0456	0.0450	0.0371	0.0359	0.0349	0.0411
0.7908	0.7926	0.7964	0.7900	0.7923	0.7906	0.0376	0.0393	0.0427	0.0369	0.0424	0.0421
0.7826	0.7841	0.7816	0.7827	0.7938	0.7788	0.0376	0.0360	0.0368	0.0396	0.0508	0.0363
0.7832	0.7818	0.7818	0.7827	0.7570	0.7695	0.0414	0.0440	0.0397	0.0876	0.0884	0.0424
0.8123	0.8160	0.8083	0.8023	0.7987	0.7986	0.0550	0.0517	0.0458	0.0416	0.0368	0.0365
AVERAGE = 0.7916						AVERAGE = 0.0450					
$R/R_t = 0.756 \quad X/R_t = 1.12 \quad$ POINT NUMBER = 20											
0.7882	0.7875	0.7954	0.8023	0.7990	0.7902	0.0299	0.0330	0.0382	0.0433	0.0425	0.0357
0.7938	0.7940	0.7846	0.7907	0.7973	0.7780	0.0380	0.0425	0.0360	0.0412	0.0459	0.0320
0.7864	0.7730	0.7808	0.7776	0.7777	0.7746	0.0384	0.0274	0.0344	0.0336	0.0335	0.0353
0.7705	0.7732	0.7817	0.7717	0.7552	0.7675	0.0303	0.0318	0.0470	0.0808	0.0684	0.0453
0.8108	0.8233	0.8079	0.8006	0.7894	0.7941	0.0497	0.0521	0.0438	0.0375	0.0310	0.0331
AVERAGE = 0.7877						AVERAGE = 0.0408					
$R/R_t = 0.713 \quad X/R_t = 1.12 \quad$ POINT NUMBER = 21											
0.7356	0.7369	0.7316	0.7456	0.7182	0.7328	-0.0204	-0.0179	-0.0229	-0.0112	-0.0392	-0.0202
0.7584	0.7400	0.7308	0.7229	0.7204	0.7299	0.0044	-0.0111	-0.0242	-0.0202	-0.0253	-0.0213
0.7191	0.7317	0.7002	0.7080	0.7131	0.7111	-0.0202	-0.0197	-0.0514	-0.0404	-0.0419	-0.0466
0.6810	0.7131	0.7164	0.6971	0.6721	0.6928	-0.0505	-0.0266	-0.0161	0.0002	-0.0045	-0.0493
0.7057	0.7165	0.7585	0.7238	0.7275	0.7396	-0.0479	-0.0342	0.0096	-0.0361	-0.0255	-0.0162
AVERAGE = 0.7206						AVERAGE = -0.0265					

TABLE V. - Continued.

(22) Exit velocity for powered operation: nominal $X/R_t = 1.14$; $A_T = 345.28 \text{ m/s}$ (1132.8 ft/s); $\beta_{3/4} = 60.1^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.420$ $X/R_t = 1.14$ POINT NUMBER = 1											
0.7638	0.7546	0.7545	0.7615	0.7638	0.7510	0.0284	0.0272	0.0222	0.0246	0.0291	0.0364
0.7533	0.7599	0.7550	0.7617	0.7707	0.7578	0.0295	0.0349	0.0358	0.0284	0.0444	0.0357
0.7651	0.7636	0.7556	0.7609	0.7631	0.7561	0.0257	0.0397	0.0228	0.0313	0.0312	0.0304
0.7579	0.7599	0.7606	0.7658	0.7519	0.7624	0.0352	0.0434	0.0271	0.0317	0.0283	0.0261
0.7651	0.7662	0.7626	0.7533	0.7567	0.7549	0.0319	0.0312	0.0242	0.0233	0.0260	0.0349
AVERAGE = 0.7596						AVERAGE = 0.0309					
$R/R_t = 1.370$ $X/R_t = 1.14$ POINT NUMBER = 2											
0.7589	0.7618	0.7551	0.7591	0.7596	0.7627	0.0257	0.0239	0.0314	0.0232	0.0258	0.0275
0.7645	0.7599	0.7564	0.7600	0.7623	0.7602	0.0284	0.0304	0.0308	0.0296	0.0270	0.0318
0.7609	0.7652	0.7555	0.7662	0.7557	0.7560	0.0244	0.0244	0.0292	0.0304	0.0290	0.0239
0.7594	0.7596	0.7564	0.7580	0.7526	0.7576	0.0214	0.0247	0.0252	0.0310	0.0296	0.0219
0.7528	0.7640	0.7540	0.7621	0.7654	0.7635	0.0245	0.0288	0.0289	0.0295	0.0238	0.0243
AVERAGE = 0.7600						AVERAGE = 0.0267					
$R/R_t = 1.320$ $X/R_t = 1.14$ POINT NUMBER = 3											
0.7602	0.7579	0.7571	0.7630	0.7600	0.7605	0.0169	0.0213	0.0218	0.0245	0.0254	0.0227
0.7661	0.7613	0.7624	0.7657	0.7600	0.7673	0.0266	0.0300	0.0358	0.0247	0.0280	0.0319
0.7598	0.7653	0.7602	0.7603	0.7606	0.7649	0.0333	0.0266	0.0368	0.0270	0.0314	0.0295
0.7623	0.7621	0.7541	0.7609	0.7647	0.7549	0.0254	0.0281	0.0265	0.0230	0.0263	0.0145
0.7552	0.7498	0.7618	0.7610	0.7604	0.7638	0.0237	0.0258	0.0207	0.0187	0.0167	0.0215
AVERAGE = 0.7606						AVERAGE = 0.0253					
$R/R_t = 1.270$ $X/R_t = 1.14$ POINT NUMBER = 5											
0.7678	0.7627	0.7624	0.7646	0.7618	0.7630	0.0236	0.0200	0.0244	0.0219	0.0217	0.0257
0.7599	0.7652	0.7622	0.7648	0.7662	0.7615	0.0225	0.0222	0.0215	0.0295	0.0244	0.0295
0.7617	0.7564	0.7621	0.7653	0.7575	0.7535	0.0296	0.0313	0.0325	0.0335	0.0308	0.0290
0.7583	0.7607	0.7515	0.7511	0.7554	0.7572	0.0256	0.0272	0.0340	0.0215	0.0214	0.0189
0.7571	0.7646	0.7589	0.7623	0.7663	0.7588	0.0182	0.0107	0.0155	0.0171	0.0142	0.0199
AVERAGE = 0.7606						AVERAGE = 0.0243					
$R/R_t = 1.230$ $X/R_t = 1.14$ POINT NUMBER = 6											
0.7680	0.7701	0.7599	0.7613	0.7681	0.7707	0.0150	0.0199	0.0242	0.0225	0.0238	0.0192
0.7628	0.7586	0.7690	0.7707	0.7648	0.7693	0.0297	0.0305	0.0264	0.0269	0.0296	0.0282
0.7669	0.7702	0.7669	0.7576	0.7565	0.7539	0.0346	0.0321	0.0385	0.0388	0.0396	0.0324
0.7496	0.7514	0.7522	0.7508	0.7534	0.7545	0.0323	0.0267	0.0305	0.0194	0.0187	0.0175
0.7580	0.7640	0.7650	0.7662	0.7686	0.7654	0.0101	0.0100	0.0082	0.0120	0.0116	0.0162
AVERAGE = 0.7615						AVERAGE = 0.0241					
$R/R_t = 1.180$ $X/R_t = 1.14$ POINT NUMBER = 7											
0.7720	0.7724	0.7706	0.7748	0.7716	0.7741	0.0125	0.0161	0.0178	0.0198	0.0230	0.0235
0.7730	0.7779	0.7721	0.7732	0.7618	0.7705	0.0271	0.0263	0.0267	0.0295	0.0358	0.0343
0.7664	0.7680	0.7650	0.7602	0.7565	0.7493	0.0420	0.0403	0.0443	0.0449	0.0471	0.0463
0.7426	0.7382	0.7425	0.7468	0.7422	0.7594	0.0508	0.0399	0.0259	0.0133	0.0049	-0.0003
0.7568	0.7652	0.7707	0.7737	0.7699	0.7725	0.0018	0.0004	0.0035	0.0091	0.0085	0.0108
AVERAGE = 0.7623						AVERAGE = 0.0250					
$R/R_t = 1.130$ $X/R_t = 1.14$ POINT NUMBER = 8											
0.7779	0.7775	0.7775	0.7731	0.7758	0.7797	0.0147	0.0107	0.0167	0.0179	0.0161	0.0206
0.7786	0.7812	0.7825	0.7703	0.7809	0.7728	0.0217	0.0228	0.0275	0.0326	0.0346	0.0343
0.7696	0.7677	0.7644	0.7639	0.7526	0.7432	0.0363	0.0409	0.0492	0.0600	0.0690	0.0832
0.7278	0.7162	0.7147	0.7209	0.7281	0.7510	0.1047	0.1048	0.0673	-0.0073	-0.0147	-0.0195
0.7598	0.7754	0.7730	0.7707	0.7700	0.7741	-0.0084	-0.0109	-0.0004	0.0049	0.0067	0.0057
AVERAGE = 0.7507						AVERAGE = 0.0367					
$R/R_t = 1.080$ $X/R_t = 1.14$ POINT NUMBER = 9											
0.7824	0.7796	0.7791	0.7823	0.7858	0.7734	0.0094	0.0185	0.0185	0.0169	0.0183	0.0285
0.7783	0.7743	0.7710	0.7873	0.7750	0.7818	0.0249	0.0303	0.0392	0.0276	0.0403	0.0395
0.7813	0.7802	0.7712	0.7743	0.7778	0.7790	0.0435	0.0518	0.0613	0.0621	0.0859	0.1083
0.7697	0.7619	0.6776	0.7297	0.7679	0.7619	0.1162	0.1145	0.0033	-0.0390	-0.0581	-0.0480
0.7808	0.7869	0.7760	0.7783	0.7861	0.7790	-0.0272	-0.0195	-0.0049	-0.0049	0.0007	0.0071
AVERAGE = 0.7731						AVERAGE = 0.0258					

TABLE V. - Continued.

(22) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 1.040 \quad X/R_t = 1.14$						POINT NUMBER = 10					
0.7877	0.7883	0.7843	0.7910	0.7811	0.7856	0.0063	0.0142	0.0169	0.0178	0.0268	0.0207
0.7893	0.7884	0.7818	0.7878	0.7904	0.7885	0.0228	0.0275	0.0293	0.0300	0.0387	0.0381
0.7840	0.7831	0.7938	0.7983	0.7974	0.7898	0.0493	0.0502	0.0579	0.0620	0.0760	0.0640
0.7929	0.8434	0.8342	0.8364	0.8161	0.8026	0.0421	-0.0200	-0.0392	-0.0436	-0.0410	-0.0242
0.8009	0.7827	0.7922	0.7900	0.7862	0.7903	-0.0112	0.0035	-0.0017	-0.0029	0.0068	0.0049
AVERAGE = 0.7885						AVERAGE = 0.0223					
$R/R_t = 0.990 \quad X/R_t = 1.14$						POINT NUMBER = 12					
0.7971	0.7923	0.7896	0.7943	0.7944	0.7948	0.0143	0.0169	0.0191	0.0207	0.0188	0.0237
0.7892	0.7974	0.7900	0.7960	0.7939	0.7869	0.0348	0.0280	0.0365	0.0350	0.0349	0.0450
0.7986	0.7992	0.8083	0.8087	0.7967	0.7781	0.0461	0.0468	0.0480	0.0527	0.0591	0.0657
0.7753	0.7954	0.8255	0.8114	0.8112	0.8106	0.0343	0.0212	-0.0042	-0.0020	-0.0046	-0.0033
0.8024	0.8020	0.8067	0.7916	0.7924	0.7930	0.0019	0.0008	0.0004	0.0068	0.0113	0.0117
AVERAGE = 0.7957						AVERAGE = 0.0280					
$R/R_t = 0.950 \quad X/R_t = 1.14$						POINT NUMBER = 13					
0.8021	0.7959	0.7963	0.7971	0.7954	0.8002	0.0134	0.0197	0.0207	0.0212	0.0225	0.0252
0.7934	0.7941	0.7947	0.7997	0.8007	0.8023	0.0267	0.0350	0.0318	0.0318	0.0360	0.0387
0.8038	0.8064	0.8029	0.8084	0.7978	0.7833	0.0358	0.0415	0.0472	0.0453	0.0486	0.0376
0.7809	0.8173	0.8249	0.8243	0.8205	0.8067	0.0398	0.0164	0.0061	0.0059	0.0060	0.0106
0.8110	0.8071	0.7967	0.7877	0.8029	0.7989	0.0073	0.0099	0.0200	0.0204	0.0168	0.0195
AVERAGE = 0.8011						AVERAGE = 0.0269					
$R/R_t = 0.900 \quad X/R_t = 1.14$						POINT NUMBER = 14					
0.8085	0.8023	0.8015	0.8026	0.8028	0.8069	0.0191	0.0219	0.0219	0.0245	0.0269	0.0254
0.7977	0.8023	0.8043	0.8054	0.8041	0.8054	0.0267	0.0246	0.0331	0.0266	0.0362	0.0333
0.8110	0.8106	0.8087	0.8099	0.7788	0.7696	0.0329	0.0398	0.0383	0.0347	0.0442	0.0412
0.7919	0.8054	0.8125	0.8212	0.8176	0.8098	0.0304	0.0380	0.0246	0.0173	0.0222	0.0195
0.8051	0.8130	0.8106	0.8106	0.8013	0.8089	0.0235	0.0202	0.0184	0.0187	0.0239	0.0211
AVERAGE = 0.8031						AVERAGE = 0.0283					
$R/R_t = 0.860 \quad X/R_t = 1.14$						POINT NUMBER = 16					
0.8081	0.8084	0.8038	0.8034	0.8019	0.8014	0.0252	0.0262	0.0292	0.0299	0.0301	0.0299
0.8024	0.8028	0.7998	0.8026	0.8061	0.8023	0.0315	0.0329	0.0331	0.0328	0.0311	0.0297
0.8054	0.8042	0.8122	0.7972	0.7741	0.7627	0.0350	0.0303	0.0306	0.0340	0.0431	0.0399
0.7780	0.8105	0.8126	0.8190	0.8166	0.8094	0.0406	0.0360	0.0321	0.0323	0.0248	0.0301
0.8155	0.8164	0.8105	0.8098	0.8053	0.8067	0.0236	0.0275	0.0247	0.0223	0.0262	0.0242
AVERAGE = 0.8031						AVERAGE = 0.0308					
$R/R_t = 0.810 \quad X/R_t = 1.14$						POINT NUMBER = 17					
0.8134	0.8062	0.8137	0.8097	0.8092	0.8084	0.0288	0.0378	0.0285	0.0314	0.0287	0.0348
0.8114	0.8095	0.8044	0.8083	0.8084	0.8093	0.0296	0.0337	0.0333	0.0348	0.0307	0.0290
0.8099	0.8078	0.8116	0.7999	0.7835	0.7664	0.0306	0.0266	0.0287	0.0298	0.0328	0.0420
0.7795	0.8047	0.8197	0.8218	0.8269	0.8163	0.0477	0.0508	0.0364	0.0332	0.0342	0.0370
0.8188	0.8165	0.8152	0.8148	0.8098	0.8129	0.0316	0.0343	0.0315	0.0315	0.0274	0.0320
AVERAGE = 0.8071						AVERAGE = 0.0329					
$R/R_t = 0.770 \quad X/R_t = 1.14$						POINT NUMBER = 18					
0.8138	0.8102	0.8130	0.8144	0.8101	0.8120	0.0348	0.0344	0.0343	0.0379	0.0305	0.0346
0.8099	0.8057	0.8153	0.8111	0.8141	0.8129	0.0338	0.0342	0.0342	0.0327	0.0304	0.0328
0.8084	0.8116	0.8064	0.7922	0.7781	0.7615	0.0366	0.0274	0.0311	0.0364	0.0379	0.0388
0.7855	0.8215	0.8180	0.8287	0.8201	0.8234	0.0375	0.0481	0.0439	0.0416	0.0397	0.0415
0.8172	0.8196	0.8174	0.8219	0.8172	0.8162	0.0370	0.0367	0.0358	0.0379	0.0387	0.0364
AVERAGE = 0.8081						AVERAGE = 0.0358					
$R/R_t = 0.720 \quad X/R_t = 1.14$						POINT NUMBER = 19					
0.8200	0.8164	0.8166	0.8163	0.8177	0.8180	0.0375	0.0364	0.0362	0.0388	0.0370	0.0327
0.8165	0.8151	0.8154	0.8180	0.8174	0.8193	0.0367	0.0358	0.0365	0.0373	0.0309	0.0302
0.8181	0.8193	0.8152	0.7929	0.7820	0.7743	0.0295	0.0290	0.0307	0.0392	0.0373	0.0380
0.8030	0.8209	0.8296	0.8277	0.8269	0.8255	0.0470	0.0484	0.0482	0.0474	0.0476	0.0440
0.8218	0.8205	0.8207	0.8170	0.8249	0.8167	0.0424	0.0358	0.0423	0.0447	0.0418	0.0421
AVERAGE = 0.8135						AVERAGE = 0.0380					

TABLE V. - Continued.

(22) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$R/R_t = 0.680 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 20											
0.8227	0.8196	0.8248	0.8245	0.8206	0.8184	0.0420	0.0456	0.0387	0.0405	0.0396	0.0375
0.8174	0.8205	0.8210	0.8204	0.8218	0.8155	0.0369	0.0373	0.0368	0.0374	0.0318	0.0335
0.8121	0.8148	0.8035	0.7757	0.7698	0.7920	0.0332	0.0352	0.0353	0.0513	0.0414	0.0513
0.8187	0.8290	0.8295	0.8290	0.8268	0.8268	0.0590	0.0567	0.0519	0.0503	0.0509	0.0482
0.8235	0.8208	0.8205	0.8218	0.8248	0.8209	0.0476	0.0476	0.0476	0.0475	0.0418	0.0430
AVERAGE = 0.8153						AVERAGE = 0.0418					
$R/R_t = 0.640 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 21											
0.8264	0.8320	0.8276	0.8310	0.8289	0.8281	0.0512	0.0461	0.0463	0.0433	0.0433	0.0435
0.8302	0.8311	0.8293	0.8294	0.8282	0.8244	0.0421	0.0380	0.0328	0.0405	0.0370	0.0357
0.8186	0.8211	0.8111	0.7954	0.7797	0.7863	0.0401	0.0384	0.0418	0.0449	0.0402	0.0442
0.8162	0.8339	0.8287	0.8329	0.8331	0.8299	0.0642	0.0553	0.0569	0.0560	0.0539	0.0550
0.8312	0.8348	0.8291	0.8326	0.8267	0.8316	0.0569	0.0526	0.0523	0.0463	0.0495	0.0509
AVERAGE = 0.8237						AVERAGE = 0.0466					
$R/R_t = 0.590 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 22											
0.8341	0.8344	0.8377	0.8309	0.8385	0.8341	0.0504	0.0513	0.0527	0.0535	0.0459	0.0463
0.8325	0.8298	0.8347	0.8350	0.8237	0.8315	0.0486	0.0436	0.0395	0.0365	0.0472	0.0379
0.8230	0.8254	0.8044	0.8004	0.8006	0.8180	0.0424	0.0409	0.0451	0.0471	0.0504	0.0747
0.8374	0.8351	0.8377	0.8367	0.8403	0.8344	0.0692	0.0682	0.0669	0.0621	0.0626	0.0638
0.8386	0.8370	0.8407	0.8400	0.8386	0.8325	0.0567	0.0585	0.0563	0.0587	0.0565	0.0569
AVERAGE = 0.8302						AVERAGE = 0.0527					
$R/R_t = 0.550 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 23											
0.8413	0.8416	0.8407	0.8378	0.8400	0.8390	0.0560	0.0593	0.0604	0.0581	0.0487	0.0555
0.8395	0.8402	0.8374	0.8411	0.8301	0.8347	0.0521	0.0497	0.0488	0.0475	0.0443	0.0471
0.8341	0.8152	0.8151	0.8076	0.8181	0.8356	0.0447	0.0509	0.0520	0.0583	0.0639	0.0744
0.8455	0.8449	0.8387	0.8438	0.8437	0.8490	0.0722	0.0741	0.0719	0.0743	0.0697	0.0670
0.8449	0.8400	0.8388	0.8390	0.8420	0.8469	0.0665	0.0642	0.0663	0.0692	0.0610	0.0597
AVERAGE = 0.8373						AVERAGE = 0.0591					
$R/R_t = 0.510 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 24											
0.8430	0.8447	0.8366	0.8438	0.8392	0.8474	0.0693	0.0633	0.0653	0.0584	0.0626	0.0576
0.8415	0.8454	0.8475	0.8413	0.8355	0.8337	0.0558	0.0508	0.0493	0.0490	0.0476	0.0490
0.8235	0.8261	0.8020	0.8094	0.8272	0.8449	0.0474	0.0492	0.0629	0.0734	0.0872	0.0935
0.8511	0.8460	0.8461	0.8478	0.8333	0.8398	0.0855	0.0849	0.0868	0.0815	0.0727	0.0811
0.8380	0.8465	0.8444	0.8420	0.8433	0.8467	0.0818	0.0776	0.0771	0.0716	0.0717	0.0684
AVERAGE = 0.8385						AVERAGE = 0.0665					
$R/R_t = 0.460 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 25											
0.8512	0.8530	0.8528	0.8360	0.8467	0.8510	0.0801	0.0742	0.0701	0.0758	0.0697	0.0688
0.8501	0.8404	0.8369	0.8495	0.8351	0.8447	0.0573	0.0605	0.0621	0.0529	0.0504	0.0427
0.8347	0.8268	0.8262	0.8300	0.8475	0.8604	0.0497	0.0496	0.0551	0.0749	0.0974	0.0956
0.8581	0.8551	0.8649	0.8532	0.8552	0.8502	0.1024	0.1017	0.0952	0.0938	0.0932	0.0985
0.8530	0.8546	0.8483	0.8499	0.8437	0.8484	0.0950	0.0803	0.0905	0.0822	0.0808	0.0828
AVERAGE = 0.8457						AVERAGE = 0.0744					
$R/R_t = 0.420 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 27											
0.8543	0.8492	0.8401	0.8431	0.8501	0.8566	0.1019	0.1000	0.1001	0.0981	0.0935	0.0825
0.8430	0.8429	0.8482	0.8521	0.8493	0.8309	0.0918	0.0902	0.0743	0.0719	0.0680	0.0675
0.8341	0.8234	0.8068	0.8043	0.8228	0.8427	0.0600	0.0579	0.0701	0.0810	0.0878	0.0946
0.8556	0.8677	0.8607	0.8416	0.8530	0.8385	0.0965	0.1002	0.1006	0.1141	0.1111	0.1099
0.8489	0.8441	0.8401	0.8454	0.8566	0.8445	0.1060	0.1168	0.1136	0.0984	0.1070	0.1054
AVERAGE = 0.8430						AVERAGE = 0.0922					
$R/R_t = 0.380 \quad X/R_t = 1.14 \quad$ POINT NUMBER = 28											
0.8740	0.8837	0.8800	0.8840	0.8882	0.8866	0.0488	0.0427	0.0418	0.0435	0.0421	0.0425
0.8789	0.8852	0.8648	0.8657	0.8511	0.8334	0.0432	0.0322	0.0429	0.0352	0.0304	0.0388
0.8045	0.8133	0.8028	0.7993	0.7881	0.7714	0.0409	0.0409	0.0341	0.0383	0.0316	0.0391
0.7493	0.7486	0.7620	0.7181	0.7511	0.7710	0.0276	0.0387	0.0673	0.0583	0.0542	0.0548
0.7954	0.7990	0.8281	0.8259	0.8573	0.8757	0.0604	0.0576	0.0685	0.0570	0.0547	0.0456
AVERAGE = 0.8306						AVERAGE = 0.0512					

TABLE V. - Continued.

(22) Concluded.

AXIAL VELOCITY

RADIAL VELOCITY

$R/R_t = 0.380$	$X/R_t = 1.14$	POINT NUMBER = 29										
0.8610	0.8776	0.8686	0.8835	0.8715	0.8879	0.0566	0.0436	0.0461	0.0432	0.0486	0.0405	
0.8942	0.8818	0.8717	0.8676	0.8560	0.8573	0.0398	0.0443	0.0396	0.0399	0.0382	0.0336	
0.8038	0.8229	0.8163	0.8018	0.7755	0.7609	0.0490	0.0392	0.0366	0.0288	0.0368	0.0337	
0.7562	0.7641	0.7371	0.7352	0.7831	0.7683	0.0320	0.0335	0.0577	0.0403	0.0612	0.0442	
0.7787	0.7995	0.7919	0.8263	0.8443	0.8595	0.0502	0.0574	0.0626	0.0529	0.0539	0.0524	
AVERAGE	= 0.8337					AVERAGE	= 0.0496					

(23) Interblade velocity for powered operation: nominal $X/R_t = 0.79$; $A_T = 340.95 \text{ m/s}$ (1118.6 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY

TANGENTIAL VELOCITY

$X/R_t = 0.290$	$R/R_t = 0.79$	POINT NUMBER = 2										
0.7415	0.7428	0.7424	0.7385	0.7374	0.7389	0.0026	0.0058	0.0043	0.0052	0.0025	0.0032	
0.7394	0.7354	0.7368	0.7416	0.7437	0.7416	0.0055	0.0026	0.0022	0.0013	0.0028	-0.0011	
0.7447	0.7465	0.7481	0.7453	0.7508	0.7490	-0.0013	0.0006	0.0019	-0.0062	0.0025	-0.0011	
0.7508	0.7490	0.7515	0.7453	0.7437	0.7465	-0.0007	-0.0036	0.0004	0.0002	-0.0004	0.0038	
0.7448	0.7475	0.7435	0.7422	0.7433	0.7416	0.0003	0.0027	0.0024	0.0038	0.0043	0.0030	
AVERAGE	= 0.7433					AVERAGE	= 0.0019					

$X/R_t = 0.450$	$R/R_t = 0.79$	POINT NUMBER = 3										
0.7458	0.7410	0.7152	0.7451	0.7468	0.7530	0.0055	0.0141	0.0222	0.0007	-0.0031	-0.0044	
0.7512	0.7542	0.7544	0.7544	0.7562	0.7585	-0.0032	-0.0025	-0.0046	-0.0020	-0.0030	-0.0024	
0.7575	0.7622	0.7576	0.7600	0.7566	0.7562	-0.0045	-0.0036	-0.0019	-0.0056	-0.0013	0.0004	
0.7562	0.7532	0.7518	0.7480	0.7547	0.7514	-0.0039	0.0041	-0.0006	0.0010	-0.0013	0.0029	
0.7514	0.7481	0.7485	0.7471	0.7477	0.7476	0.0038	0.0059	0.0058	0.0048	0.0066	0.0050	
AVERAGE	= 0.7499					AVERAGE	= 0.0020					

$X/R_t = 0.450$	$R/R_t = 0.79$	POINT NUMBER = 4										
0.7452	0.7374	0.7306	0.7475	0.7462	0.7511	0.0050	0.0096	0.0118	0.0008	-0.0018	-0.0033	
0.7529	0.7545	0.7536	0.7616	0.7567	0.7637	-0.0046	-0.0080	-0.0014	-0.0097	-0.0039	-0.0060	
0.7590	0.7563	0.7542	0.7567	0.7589	0.7571	-0.0021	-0.0104	-0.0025	-0.0044	-0.0057	0.0018	
0.7554	0.7492	0.7499	0.7508	0.7529	0.7490	-0.0008	0.0037	0.0026	0.0026	0.0006	0.0054	
0.7466	0.7490	0.7487	0.7486	0.7484	0.7455	0.0026	0.0053	0.0045	0.0057	0.0068	0.0056	
AVERAGE	= 0.7506					AVERAGE	= 0.0005					

$X/R_t = 0.620$	$R/R_t = 0.79$	POINT NUMBER = 6										
0.7756	0.7695	0.7676	0.7632	0.7596	0.7586	0.0210	0.0199	0.0217	0.0240	0.0249	0.0321	
0.7549	0.6883	0.8192	0.8167	0.8086	0.8118	0.0409	0.0325	-0.0121	-0.0216	-0.0168	-0.0152	
0.8021	0.8036	0.8012	0.7938	0.8029	0.7942	-0.0100	-0.0021	-0.0056	-0.0101	-0.0073	0.0001	
0.7922	0.7932	0.7946	0.7926	0.7805	0.7858	0.0025	0.0081	0.0052	0.0070	0.0078	0.0051	
0.7911	0.7866	0.7838	0.7809	0.7753	0.7751	0.0129	0.0095	0.0115	0.0110	0.0118	0.0175	
AVERAGE	= 0.7760					AVERAGE	= 0.0103					

$X/R_t = 0.540$	$R/R_t = 0.79$	POINT NUMBER = 8										
0.7637	0.7592	0.7549	0.7550	0.6979	0.7802	0.0141	0.0145	0.0193	0.0206	0.0657	-0.0137	
0.7905	0.7820	0.7832	0.7833	0.7822	0.7825	-0.0308	-0.0182	-0.0124	-0.0172	-0.0163	-0.0176	
0.7742	0.7767	0.7774	0.7833	0.7827	0.7782	-0.0031	-0.0087	-0.0058	-0.0130	-0.0144	-0.0087	
0.7780	0.7747	0.7723	0.7688	0.7747	0.7762	-0.0050	-0.0029	-0.0013	0.0030	0.0016	0.0045	
0.7657	0.7676	0.7632	0.7655	0.7598	0.7614	0.0091	0.0017	0.0049	0.0033	0.0099	0.0090	
AVERAGE	= 0.7488					AVERAGE	= 0.0201					

$X/R_t = 0.709$	$R/R_t = 0.79$	POINT NUMBER = 10										
0.7633	0.7670	0.7570	0.7576	0.7616	0.7569	0.0314	0.0409	0.0388	0.0418	0.0429	0.0470	
0.7550	0.7579	0.7528	0.6393	0.7062	0.8640	0.0437	0.0487	0.0556	0.0196	0.0862	-0.0047	
0.8545	0.8480	0.8270	0.8352	0.8267	0.8193	0.0026	0.0003	-0.0019	0.0055	0.0035	0.0030	
0.8131	0.8155	0.7987	0.8003	0.7989	0.7936	0.0074	0.0216	0.0099	0.0215	0.0123	0.0150	
0.7903	0.7866	0.7789	0.7782	0.7703	0.7765	0.0171	0.0316	0.0333	0.0313	0.0285	0.0276	
AVERAGE	= 0.7243					AVERAGE	= 0.0210					

$X/R_t = 0.787$	$R/R_t = 0.79$	POINT NUMBER = 11										
0.7686	0.7663	0.7687	0.7632	0.7620	0.7644	0.0466	0.0429	0.0485	0.0522	0.0535	0.0531	
0.7602	0.7626	0.7601	0.7618	0.7600	0.7618	0.0609	0.0583	0.0630	0.0630	0.0646	0.0694	
0.7315	0.8307	0.8255	0.8130	0.8062	0.8038	0.0960	0.0814	0.0580	0.0521	0.0576	0.0593	
0.8005	0.7949	0.7886	0.7830	0.7795	0.7812	0.0518	0.0493	0.0552	0.0499	0.0517	0.0518	
0.7856	0.7778	0.7764	0.7737	0.7757	0.7685	0.0528	0.0519	0.0456	0.0498	0.0499	0.0469	
AVERAGE	= 0.7774					AVERAGE	= 0.0549					

TABLE V. - Continued.

(23) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$X/R_t = 0.730 \quad R/R_t = 0.79$ POINT NUMBER = 12											
0.7687	0.7670	0.7648	0.7660	0.7649	0.7663	0.0326	0.0303	0.0325	0.0353	0.0342	0.0386
0.7607	0.7630	0.7602	0.7577	0.7576	0.7548	0.0425	0.0439	0.0460	0.0547	0.0564	0.0778
0.8670	0.8329	0.8193	0.8071	0.8040	0.7973	0.0129	0.0084	-0.0005	0.0072	0.0004	0.0001
0.7977	0.7933	0.7897	0.7810	0.7864	0.7787	0.0009	0.0097	0.0116	0.0135	0.0182	0.0161
0.7772	0.7689	0.7750	0.7761	0.7703	0.7679	0.0154	0.0202	0.0268	0.0284	0.0245	0.0223
AVERAGE = 0.7787						AVERAGE = 0.0273					
$X/R_t = 0.710 \quad R/R_t = 0.79$ POINT NUMBER = 13											
0.7677	0.7560	0.7654	0.7634	0.7591	0.7585	0.0383	0.0367	0.0462	0.0413	0.0458	0.0509
0.7538	0.7557	0.7584	0.7584	0.6962	0.8579	0.0534	0.0538	0.0563	0.0684	0.0600	-0.0547
0.8695	0.8544	0.8675	0.8436	0.8509	0.8330	0.0057	0.0125	0.0198	0.0207	0.0197	0.0223
0.8277	0.8219	0.8175	0.7993	0.8007	0.7863	0.0261	0.0279	0.0268	0.0170	0.0274	0.0246
0.7812	0.7907	0.7802	0.7782	0.7739	0.7765	0.0260	0.0367	0.0292	0.0286	0.0318	0.0350
AVERAGE = 0.7601						AVERAGE = 0.0334					
$X/R_t = 0.744 \quad R/R_t = 0.79$ POINT NUMBER = 14											
0.7646	0.7422	0.7526	0.7409	0.7461	0.7399	0.0357	0.0200	0.0303	0.0214	0.0252	0.0262
0.7488	0.7385	0.7472	0.7454	0.7361	0.6350	0.0380	0.0277	0.0433	0.0540	0.0541	0.0124
0.8047	0.7817	0.7612	0.7646	0.7721	0.7566	-0.0585	-0.0599	-0.0517	-0.0506	-0.0376	-0.0370
0.7416	0.7697	0.7753	0.7637	0.7574	0.7722	-0.0473	-0.0162	-0.0044	-0.0104	-0.0127	0.0118
0.7804	0.7692	0.7690	0.7530	0.7332	0.7463	0.0216	0.0181	0.0198	0.0099	-0.0026	0.0118
AVERAGE = 0.7257						AVERAGE = 0.0058					
$X/R_t = 0.866 \quad R/R_t = 0.79$ POINT NUMBER = 15											
0.7799	0.7878	0.7804	0.7822	0.7763	0.7804	0.0515	0.0621	0.0534	0.0586	0.0515	0.0599
0.7753	0.7682	0.7766	0.7735	0.7831	0.7781	0.0631	0.0541	0.0623	0.0543	0.0680	0.0666
0.7788	0.7872	0.7603	0.7440	0.8053	0.8031	0.0673	0.0779	0.0971	0.0669	0.0841	0.0774
0.8018	0.7974	0.7947	0.7913	0.7905	0.7819	0.0783	0.0731	0.0576	0.0532	0.0587	0.0482
0.7901	0.7913	0.7883	0.7880	0.7792	0.7836	0.0543	0.0596	0.0543	0.0580	0.0531	0.0515
AVERAGE = 0.7840						AVERAGE = 0.0620					
$X/R_t = 0.944 \quad R/R_t = 0.79$ POINT NUMBER = 16											
0.7908	0.7914	0.7917	0.7934	0.7873	0.7888	0.0503	0.0535	0.0559	0.0535	0.0533	0.0556
0.7883	0.7884	0.7905	0.7868	0.7879	0.7901	0.0505	0.0552	0.0561	0.0548	0.0567	0.0618
0.7878	0.7824	0.7886	0.7877	0.7831	0.7365	0.0624	0.0603	0.0658	0.0649	0.0880	0.1224
0.8104	0.8200	0.8091	0.8120	0.8010	0.7963	0.0810	0.0746	0.0696	0.0691	0.0633	0.0557
0.8089	0.8010	0.7972	0.7962	0.7902	0.7973	0.0646	0.0628	0.0555	0.0537	0.0532	0.0566
AVERAGE = 0.7926						AVERAGE = 0.0620					
$X/R_t = 1.090 \quad R/R_t = 0.79$ POINT NUMBER = 17											
0.8111	0.8091	0.8098	0.8132	0.8113	0.8100	0.0649	0.0605	0.0606	0.0611	0.0611	0.0581
0.8102	0.8101	0.8088	0.8090	0.8094	0.8085	0.0599	0.0616	0.0594	0.0568	0.0578	0.0561
0.8042	0.8110	0.8123	0.8094	0.8004	0.8161	0.0549	0.0578	0.0625	0.0614	0.0569	0.0687
0.8150	0.8169	0.8155	0.7828	0.7800	0.8331	0.0698	0.0726	0.0775	0.0956	0.0843	0.0863
0.8284	0.8259	0.8227	0.8172	0.8214	0.8142	0.0808	0.0737	0.0739	0.0667	0.0696	0.0676
AVERAGE = 0.8116						AVERAGE = 0.0649					
$X/R_t = 1.260 \quad R/R_t = 0.79$ POINT NUMBER = 18											
0.8283	0.8267	0.8207	0.8172	0.8240	0.8208	0.0835	0.0832	0.0747	0.0712	0.0784	0.0735
0.8156	0.8162	0.8209	0.8164	0.8166	0.8127	0.0657	0.0692	0.0695	0.0707	0.0693	0.0658
0.8167	0.8133	0.8137	0.8152	0.8183	0.8138	0.0670	0.0642	0.0650	0.0666	0.0715	0.0637
0.8132	0.8155	0.8167	0.8161	0.8200	0.8256	0.0666	0.0704	0.0729	0.0729	0.0784	0.0830
0.8178	0.8166	0.7826	0.8014	0.8296	0.8265	0.0815	0.0873	0.1149	0.0830	0.0923	0.0855
AVERAGE = 0.8174						AVERAGE = 0.0746					
$X/R_t = 1.500 \quad R/R_t = 0.79$ POINT NUMBER = 19											
0.8042	0.8048	0.8058	0.7845	0.7863	0.8091	0.0860	0.0864	0.0901	0.1109	0.0973	0.0942
0.8133	0.8134	0.8151	0.8149	0.8125	0.8118	0.0946	0.0919	0.0905	0.0885	0.0857	0.0856
0.8143	0.8056	0.8081	0.8090	0.8080	0.8078	0.0831	0.0799	0.0781	0.0819	0.0780	0.0798
0.8072	0.8002	0.8036	0.7974	0.8050	0.8005	0.0788	0.0715	0.0776	0.0754	0.0796	0.0763
0.7997	0.8038	0.8006	0.8048	0.8032	0.8057	0.0790	0.0767	0.0800	0.0802	0.0837	0.0847
AVERAGE = 0.8053						AVERAGE = 0.0837					

TABLE V. - Continued.

(23) Concluded.

AXIAL VELOCITY										TANGENTIAL VELOCITY					
$X/R_t = 1.670$ $R/R_t = 0.79$ POINT NUMBER = 20										0.0715	0.0737	0.0734	0.0717	0.0831	0.0791
0.7983	0.7979	0.7906	0.7946	0.8062	0.8011					0.0809	0.0866	0.1012	0.0927	0.0826	0.0864
0.8025	0.8020	0.7793	0.7769	0.7889	0.8028					0.0835	0.0881	0.0873	0.0792	0.0831	0.0830
0.8046	0.8047	0.8048	0.7972	0.8019	0.8016					0.0802	0.0813	0.0797	0.0790	0.0758	0.0764
0.7953	0.8000	0.7955	0.7996	0.7975	0.7987					0.0754	0.0717	0.0723	0.0755	0.0731	0.0721
AVERAGE	= 0.7979									AVERAGE	= 0.0789				
$X/R_t = 0.540$ $R/R_t = 0.79$ POINT NUMBER = 22										0.0122	0.0116	0.0199	0.0682	0.0300	-0.0135
0.7543	0.7580	0.7481	0.6877	0.6213	0.7671					-0.0031	-0.0089	-0.0055	0.0006	0.0010	-0.0089
0.7616	0.7643	0.7730	0.7624	0.7582	0.7722					-0.0050	0.0088	-0.0022	-0.0097	-0.0018	-0.0025
0.7669	0.7539	0.7658	0.7704	0.7641	0.7655					-0.0021	-0.0004	-0.0009	0.0021	0.0089	0.0012
0.7691	0.7615	0.7635	0.7635	0.7562	0.7677					0.0059	0.0094	0.0092	0.0094	0.0143	0.0148
AVERAGE	= 0.6860									AVERAGE	= 0.0556				
(24) Interblade velocity for powered operation: nominal $X/R_t = 0.92$; $A_T = 340.95$ m/s (1118.6 ft/s); $\beta_{3/4} = 60.9^\circ$.															
AXIAL VELOCITY										TANGENTIAL VELOCITY					
$X/R_t = 0.120$ $R/R_t = 0.92$ POINT NUMBER = 1										0.0016	-0.0004	0.0004	0.0009	0.005	0.0015
0.7405	0.7402	0.7374	0.7387	0.7402	0.7350					0.0013	0.0007	0.0026	0.0049	0.0026	0.0057
0.7320	0.7332	0.7344	0.7345	0.7333	0.7331					0.0040	0.0012	0.0023	0.0097	0.0025	0.0037
0.7331	0.7320	0.7312	0.7337	0.7319	0.7349					0.0031	0.0060	0.0026	0.0043	0.0041	0.0030
0.7340	0.7335	0.7327	0.7356	0.7361	0.7366					0.0025	0.0032	0.0055	0.0025	0.0007	0.0033
AVERAGE	= 0.7357									AVERAGE	= 0.0027				
$X/R_t = 0.280$ $R/R_t = 0.92$ POINT NUMBER = 2										0.0016	0.0019	0.0020	0.0017	0.0035	0.0042
0.7441	0.7418	0.7428	0.7425	0.7399	0.7400					0.0057	0.0006	0.0049	0.0026	0.0011	0.0023
0.7435	0.7409	0.7445	0.7423	0.7390	0.7406					0.0005	0.0036	0.0023	-0.0006	-0.0005	-0.0001
0.7405	0.7416	0.7441	0.7435	0.7416	0.7431					0.0012	0.0008	-0.0022	-0.0017	-0.0005	0.0029
0.7426	0.7429	0.7429	0.7455	0.7449	0.7483					-0.0000	-0.0005	0.0008	-0.0001	-0.0010	0.0058
AVERAGE	= 0.7430									AVERAGE	= 0.0015				
$X/R_t = 0.450$ $R/R_t = 0.92$ POINT NUMBER = 3										0.0062	0.0076	0.0059	0.0030	0.0056	0.0037
0.7443	0.7467	0.7465	0.7447	0.7467	0.7473					0.0071	0.0035	0.0030	0.0040	0.0038	0.0016
0.7505	0.7478	0.7480	0.7451	0.7469	0.7500					-0.0007	0.0004	0.0041	0.0017	0.0004	0.0013
0.7502	0.7521	0.7475	0.7468	0.7487	0.7506					0.0007	0.0048	-0.0005	0.0016	0.0030	0.0029
0.7485	0.7489	0.7487	0.7476	0.7487	0.7477					0.0035	0.0078	0.0007	-0.0051	-0.0000	0.0043
AVERAGE	= 0.7471									AVERAGE	= 0.0027				
$X/R_t = 0.530$ $R/R_t = 0.92$ POINT NUMBER = 4										0.0003	0.0027	0.0036	0.0045	-0.0091	0.0026
0.7529	0.7594	0.7592	0.7618	0.7478	0.7570					0.0025	-0.0004	-0.0011	-0.0046	-0.0063	-0.0037
0.7590	0.7599	0.7629	0.7648	0.7680	0.7667					-0.0041	-0.0085	-0.0009	-0.0054	-0.0021	-0.0046
0.7635	0.7672	0.7593	0.7671	0.7643	0.7654					-0.0019	-0.0002	-0.0011	-0.0029	-0.0016	0.0010
0.7664	0.7638	0.7652	0.7667	0.7666	0.7639					0.0008	0.0013	0.0011	0.0077	0.0037	0.0079
AVERAGE	= 0.7621									AVERAGE	= -0.0008				
$X/R_t = 0.610$ $R/R_t = 0.92$ POINT NUMBER = 5										0.0061	0.0101	0.0067	0.0045	0.0080	0.0136
0.7700	0.7740	0.7683	0.7645	0.7664	0.7609					0.0017	-0.0013	-0.0039	-0.0098	-0.0058	-0.0029
0.7414	0.7344	0.7579	0.7648	0.7672	0.7675					-0.0057	-0.0115	-0.0031	0.0009	-0.0022	-0.0075
0.7761	0.7712	0.7728	0.7723	0.7701	0.7735					0.0050	-0.0013	-0.0011	0.0060	0.0025	-0.0007
0.7733	0.7707	0.7654	0.7697	0.7742	0.7677					0.0012	0.0022	-0.0010	0.0058	0.0031	0.0013
AVERAGE	= 0.7584									AVERAGE	= -0.0072				
$X/R_t = 0.570$ $R/R_t = 0.92$ POINT NUMBER = 6										0.0048	0.0022	0.0042	0.0044	0.0053	0.0008
0.7648	0.7667	0.7663	0.7647	0.7639	0.7549					0.0004	-0.0025	-0.0020	-0.0055	-0.0064	-0.0090
0.7619	0.7595	0.7668	0.7649	0.7701	0.7696					-0.0040	-0.0031	-0.0080	-0.0053	-0.0021	-0.0039
0.7662	0.7670	0.7699	0.7728	0.7728	0.7704					-0.0033	-0.0024	0.0010	0.0011	0.0013	0.0006
0.7661	0.7681	0.7687	0.7682	0.7740	0.7720					0.0013	0.0050	0.0022	0.0025	0.0054	0.0082
AVERAGE	= 0.7669									AVERAGE	= -0.0009				

TABLE V. - Continued.

(24) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$X/R_t = 0.690$ $R/R_t = 0.92$ POINT NUMBER = 7											
0.7656	0.7615	0.7613	0.7566	0.7553	0.7506	0.0215	0.0197	0.0227	0.0290	0.0292	0.0324
0.7449	0.7430	0.7441	0.7252	0.7997	0.7951	0.0303	0.0352	0.0443	0.0367	-0.0241	-0.0093
0.8140	0.8078	0.8159	0.8182	0.8142	0.8084	-0.0138	-0.0134	-0.0181	-0.0129	-0.0110	-0.0126
0.8080	0.8050	0.8093	0.8069	0.8092	0.7980	-0.0026	-0.0024	-0.0040	-0.0063	-0.0019	-0.0009
0.8014	0.7997	0.7880	0.7871	0.7785	0.7671	0.0011	0.0055	0.0033	0.0097	0.0197	0.0162
AVERAGE = 0.7725						AVERAGE = 0.0147					
$X/R_t = 0.650$ $R/R_t = 0.92$ POINT NUMBER = 8											
0.7794	0.7736	0.7670	0.7603	0.7543	0.7546	0.0048	0.0169	0.0142	0.0172	0.0161	0.0212
0.7459	0.7426	0.7379	0.7773	0.7828	0.7766	0.0246	0.0303	0.0233	-0.0184	-0.0191	-0.0082
0.7850	0.7845	0.7843	0.7826	0.7919	0.7893	-0.0074	-0.0095	-0.0004	-0.0026	-0.0095	-0.0105
0.7879	0.7911	0.7823	0.7913	0.7839	0.7896	-0.0047	0.0008	-0.0059	0.0027	0.0029	-0.0008
0.7819	0.7826	0.7871	0.7878	0.7844	0.7841	0.0088	0.0069	0.0074	0.0035	0.0027	0.0082
AVERAGE = 0.7710						AVERAGE = 0.0082					
$X/R_t = 0.650$ $R/R_t = 0.92$ POINT NUMBER = 9											
0.7745	0.7760	0.7675	0.7626	0.7602	0.7503	0.0060	0.0110	0.0104	0.0154	0.0198	0.0221
0.7441	0.7413	0.7383	0.7745	0.7812	0.7836	0.0241	0.0271	0.0222	-0.0190	-0.0152	-0.0135
0.7885	0.7805	0.7902	0.7888	0.7859	0.7812	-0.0142	-0.0039	-0.0090	-0.0087	-0.0078	0.0001
0.7820	0.7840	0.7858	0.7835	0.7855	0.7955	-0.0055	-0.0021	-0.0018	0.0024	-0.0064	0.0055
0.7897	0.7841	0.7816	0.7858	0.7871	0.7738	0.0053	-0.0021	0.0022	0.0066	0.0054	0.0073
AVERAGE = 0.7684						AVERAGE = 0.0092					
$X/R_t = 0.740$ $R/R_t = 0.92$ POINT NUMBER = 10											
0.7618	0.7594	0.7624	0.7572	0.7583	0.7534	0.0241	0.0234	0.0251	0.0260	0.0232	0.0265
0.7546	0.7519	0.7500	0.7453	0.7457	0.7515	0.0303	0.0291	0.0409	0.0418	0.0629	0.0502
0.8191	0.8227	0.8110	0.8153	0.8214	0.8124	-0.0055	-0.0017	-0.0046	-0.0028	-0.0196	-0.0080
0.8124	0.8087	0.8025	0.8025	0.7966	0.7854	-0.0055	-0.0048	0.0105	0.0100	0.0056	0.0094
0.7845	0.7770	0.7698	0.7736	0.7677	0.7684	0.0121	0.0130	0.0157	0.0206	0.0167	0.0167
AVERAGE = 0.7707						AVERAGE = 0.0234					
$X/R_t = 0.780$ $R/R_t = 0.92$ POINT NUMBER = 12											
0.7673	0.7639	0.7630	0.7635	0.7609	0.7584	0.0258	0.0310	0.0275	0.0286	0.0317	0.0327
0.7546	0.7577	0.7586	0.7540	0.7551	0.7547	0.0350	0.0341	0.0406	0.0421	0.0560	0.0619
0.7052	0.8630	0.8436	0.8423	0.8402	0.8284	0.0266	0.0190	-0.0058	0.0175	0.0113	0.0107
0.8302	0.8106	0.8073	0.8032	0.7929	0.7853	0.0237	0.0225	0.0255	0.0255	0.0254	0.0272
0.7795	0.7736	0.7708	0.7728	0.7682	0.7685	0.0277	0.0220	0.0282	0.0227	0.0235	0.0249
AVERAGE = 0.7685						AVERAGE = 0.0292					
$X/R_t = 0.860$ $R/R_t = 0.92$ POINT NUMBER = 13											
0.7655	0.7670	0.7667	0.7653	0.7650	0.7648	0.0374	0.0384	0.0379	0.0375	0.0424	0.0413
0.7548	0.7648	0.7622	0.7677	0.7652	0.7696	0.0406	0.0497	0.0508	0.0548	0.0543	0.0536
0.7754	0.7806	0.7543	0.7702	0.8299	0.8130	0.0595	0.0709	0.0934	0.0714	0.0648	0.0549
0.8040	0.7926	0.7885	0.7824	0.7768	0.7775	0.0521	0.0542	0.0542	0.0498	0.0458	0.0417
0.7744	0.7764	0.7677	0.7737	0.7706	0.7711	0.0383	0.0426	0.0354	0.0375	0.0362	0.0389
AVERAGE = 0.7728						AVERAGE = 0.0485					
$X/R_t = 0.944$ $R/R_t = 0.92$ POINT NUMBER = 14											
0.7790	0.7783	0.7745	0.7741	0.7758	0.7696	0.0374	0.0410	0.0393	0.0416	0.0448	0.0425
0.7689	0.7743	0.7699	0.7778	0.7743	0.7755	0.0413	0.0448	0.0399	0.0465	0.0428	0.0476
0.7781	0.7824	0.7836	0.7886	0.7745	0.7551	0.0528	0.0594	0.0604	0.0656	0.0844	0.1211
0.8268	0.8264	0.8059	0.8082	0.8040	0.7977	0.0796	0.0719	0.0535	0.0561	0.0492	0.0534
0.7934	0.7891	0.7879	0.7866	0.7802	0.7824	0.0527	0.0473	0.0449	0.0441	0.0392	0.0426
AVERAGE = 0.7833						AVERAGE = 0.0513					
$X/R_t = 0.944$ $R/R_t = 0.92$ POINT NUMBER = 15											
0.7800	0.7807	0.7767	0.7752	0.7763	0.7715	0.0384	0.0424	0.0404	0.0379	0.0438	0.0408
0.7726	0.7715	0.7756	0.7765	0.7789	0.7702	0.0462	0.0428	0.0470	0.0435	0.0465	0.0396
0.7800	0.7805	0.7807	0.7826	0.7883	0.7287	0.0502	0.0560	0.0594	0.0611	0.0782	0.1202
0.8152	0.8124	0.8043	0.8030	0.8009	0.7913	0.0751	0.0566	0.0546	0.0555	0.0523	0.0473
0.7957	0.7922	0.7875	0.7843	0.7869	0.7812	0.0493	0.0456	0.0454	0.0451	0.0464	0.0395
AVERAGE = 0.7832						AVERAGE = 0.0492					

TABLE V. - Continued.

(24) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$X/R_t = 1.018 R/R_t = 0.92$ POINT NUMBER = 16											
0.7914	0.7919	0.7870	0.7879	0.7862	0.7862	0.0478	0.0510	0.0473	0.0462	0.0479	0.0510
0.7859	0.7847	0.7856	0.7851	0.7859	0.7875	0.0480	0.0404	0.0453	0.0458	0.0422	0.0488
0.7850	0.7858	0.7907	0.7984	0.7898	0.8001	0.0473	0.0458	0.0530	0.0573	0.0541	0.0609
0.8013	0.7577	0.8028	0.8329	0.8179	0.8146	0.0737	0.1218	0.0925	0.0839	0.0689	0.0683
0.8080	0.8048	0.7972	0.7991	0.7955	0.7951	0.0636	0.0532	0.0493	0.0521	0.0519	0.0471
AVERAGE	= 0.7935					AVERAGE	= 0.0553				
$X/R_t = 1.089 R/R_t = 0.92$ POINT NUMBER = 17											
0.7985	0.7958	0.7997	0.7974	0.7964	0.7919	0.0506	0.0487	0.0479	0.0504	0.0451	0.0471
0.7890	0.7951	0.7918	0.7894	0.7890	0.7996	0.0421	0.0471	0.0407	0.0432	0.0404	0.0466
0.7966	0.7973	0.7956	0.7964	0.7994	0.7964	0.0432	0.0460	0.0458	0.0507	0.0519	0.0555
0.8016	0.8083	0.8114	0.7846	0.8075	0.8366	0.0579	0.0667	0.0785	0.1161	0.0834	0.0897
0.8281	0.8156	0.8200	0.8094	0.8051	0.8054	0.0789	0.0687	0.0721	0.0584	0.0538	0.0557
AVERAGE	= 0.8002					AVERAGE	= 0.0558				
$X/R_t = 1.167 R/R_t = 0.92$ POINT NUMBER = 19											
0.8174	0.8091	0.8023	0.8008	0.8060	0.7948	0.0694	0.0681	0.0531	0.0558	0.0578	0.0490
0.7958	0.7950	0.7972	0.7990	0.7987	0.7962	0.0484	0.0468	0.0460	0.0471	0.0436	0.0423
0.7965	0.7940	0.7981	0.7987	0.7967	0.7982	0.0408	0.0387	0.0450	0.0484	0.0520	0.0497
0.7927	0.8069	0.8068	0.7998	0.8169	0.8018	0.0450	0.0578	0.0559	0.0597	0.0747	0.0967
0.7868	0.8285	0.8274	0.8231	0.8117	0.8146	0.1021	0.0935	0.0841	0.0824	0.0687	0.0714
AVERAGE	= 0.8025					AVERAGE	= 0.0583				
$X/R_t = 1.245 R/R_t = 0.92$ POINT NUMBER = 20											
0.8300	0.8252	0.8200	0.8102	0.8101	0.8074	0.0862	0.0820	0.0792	0.0689	0.0651	0.0618
0.8066	0.8060	0.8035	0.8026	0.7999	0.8025	0.0577	0.0553	0.0497	0.0516	0.0490	0.0473
0.7980	0.7940	0.7951	0.7976	0.8002	0.7984	0.0466	0.0433	0.0432	0.0451	0.0491	0.0451
0.7996	0.7989	0.8051	0.7986	0.8073	0.8092	0.0468	0.0484	0.0544	0.0496	0.0561	0.0656
0.8057	0.8000	0.8005	0.8165	0.8348	0.8268	0.0648	0.0705	0.1041	0.0822	0.0945	0.0892
AVERAGE	= 0.8056					AVERAGE	= 0.0605				
$X/R_t = 1.380 R/R_t = 0.92$ POINT NUMBER = 21											
0.8002	0.8207	0.8266	0.8268	0.8288	0.8211	0.1148	0.0933	0.0986	0.0930	0.0926	0.0853
0.8208	0.8191	0.8148	0.8082	0.8067	0.8043	0.0782	0.0791	0.0673	0.0664	0.0591	0.0552
0.8028	0.8001	0.7965	0.7990	0.7988	0.7965	0.0523	0.0529	0.0501	0.0494	0.0485	0.0468
0.7961	0.7943	0.7997	0.7939	0.7996	0.7984	0.0449	0.0493	0.0490	0.0444	0.0527	0.0557
0.7971	0.8015	0.7948	0.8064	0.8066	0.8063	0.0542	0.0576	0.0568	0.0682	0.0760	0.0888
AVERAGE	= 0.8046					AVERAGE	= 0.0635				
$X/R_t = 1.500 R/R_t = 0.92$ POINT NUMBER = 22											
0.7970	0.8046	0.8031	0.7842	0.7967	0.8217	0.0619	0.0708	0.0833	0.1109	0.0805	0.0958
0.8267	0.8288	0.8310	0.8254	0.8195	0.8138	0.0936	0.0953	0.0962	0.0913	0.0856	0.0773
0.8117	0.8086	0.8023	0.8039	0.8016	0.7947	0.0710	0.0664	0.0628	0.0593	0.0578	0.0557
0.7943	0.7919	0.7888	0.7855	0.7937	0.7871	0.0546	0.0534	0.0522	0.0507	0.0574	0.0509
0.7896	0.7896	0.7900	0.7879	0.7945	0.7962	0.0543	0.0562	0.0558	0.0544	0.0586	0.0610
AVERAGE	= 0.8018					AVERAGE	= 0.0675				
$X/R_t = 1.660 R/R_t = 0.92$ POINT NUMBER = 23											
0.7889	0.7876	0.7859	0.7894	0.7987	0.7980	0.0526	0.0518	0.0493	0.0567	0.0649	0.0633
0.7965	0.8043	0.7953	0.7986	0.8166	0.8270	0.0633	0.0735	0.0882	0.0840	0.0966	0.0970
0.8161	0.8242	0.8163	0.8118	0.8101	0.8037	0.0907	0.1030	0.0936	0.0881	0.0825	0.0781
0.8008	0.7950	0.7945	0.7938	0.7927	0.7860	0.0712	0.0627	0.0610	0.0607	0.0580	0.0522
0.7886	0.7846	0.7871	0.7877	0.7862	0.7837	0.0596	0.0519	0.0557	0.0516	0.0517	0.0522
AVERAGE	= 0.7967					AVERAGE	= 0.0669				

TABLE V. - Continued.

(25) Interblade velocity for powered operation: nominal $X/R_t = 1.02$; $A_T = 340.95 \text{ m/s}$ (1118.6 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY										TANGENTIAL VELOCITY						
$X/R_t = 0.120$ $R/R_t = 1.02$ POINT NUMBER = 2										0.0027	-0.0011	0.0040	0.0014	0.0007	-0.0001	
0.7395	0.7379	0.7402	0.7398	0.7401	0.7419	0.0011	0.0007	0.0009	0.0028	0.0038	0.0030					
0.7420	0.7409	0.7433	0.7412	0.7398	0.7387	0.0018	-0.0000	-0.0000	0.0009	0.0003	0.0021					
0.7374	0.7400	0.7407	0.7375	0.7357	0.7375	0.0034	0.0021	0.0030	0.0032	0.0039	0.0008					
0.7382	0.7384	0.7390	0.7385	0.7390	0.7362	0.0034	0.0026	0.0010	0.0029	0.0038	0.0006					
0.7390	0.7366	0.7381	0.7368	0.7390	0.7373	AVERAGE = 0.7390	AVERAGE = 0.0019									
$X/R_t = 0.280$ $R/R_t = 1.02$ POINT NUMBER = 3										0.0003	0.0028	0.0001	-0.0007	0.0010	0.0037	
0.7466	0.7442	0.7445	0.7428	0.7432	0.7443	0.0007	0.0016	0.0046	0.0004	0.0061	0.0016					
0.7407	0.7424	0.7423	0.7425	0.7460	0.7417	0.0028	0.0016	0.0022	0.0020	0.0028	-0.0005					
0.7420	0.7416	0.7420	0.7418	0.7425	0.7443	0.0010	-0.0001	0.0024	0.0010	-0.0001	-0.0015					
0.7444	0.7443	0.7449	0.7455	0.7441	0.7460	0.0013	0.0001	-0.0009	0.0002	0.0013	-0.0024					
0.7452	0.7452	0.7427	0.7467	0.7444	0.7449	AVERAGE = 0.7438	AVERAGE = 0.0012									
$X/R_t = 0.450$ $R/R_t = 1.02$ POINT NUMBER = 4										0.0010	0.0025	0.0045	0.0074	0.0021	0.0041	
0.7500	0.7502	0.7485	0.7466	0.7472	0.7498	0.0022	0.0034	0.0043	0.0025	0.0036	0.0033					
0.7510	0.7458	0.7456	0.7507	0.7491	0.7474	0.0001	-0.0013	0.0018	0.0027	0.0016	0.0004					
0.7498	0.7497	0.7517	0.7501	0.7507	0.7513	-0.0000	-0.0008	-0.0008	0.0016	-0.0002	-0.0018					
0.7500	0.7494	0.7499	0.7519	0.7523	0.7526	-0.0004	0.0006	0.0034	0.0052	0.0009	0.0015					
0.7499	0.7525	0.7542	0.7525	0.7511	0.7500	AVERAGE = 0.7500	AVERAGE = 0.0018									
$X/R_t = 0.530$ $R/R_t = 1.02$ POINT NUMBER = 5										0.0049	0.0023	0.0029	0.0048	0.0004	0.0045	
0.7569	0.7573	0.7574	0.7605	0.7565	0.7588	-0.0008	0.0017	-0.0001	0.0007	0.0006	-0.0011					
0.7544	0.7545	0.7557	0.7576	0.7594	0.7617	-0.0029	-0.0013	-0.0042	-0.0030	-0.0011	-0.0013					
0.7610	0.7577	0.7604	0.7607	0.7607	0.7584	-0.0035	-0.0028	0.0022	0.0038	0.0003	0.0024					
0.7635	0.7606	0.7576	0.7551	0.7598	0.7598	0.0032	-0.0016	0.0018	0.0018	0.0010	0.0022					
0.7618	0.7601	0.7557	0.7600	0.7583	0.7597	AVERAGE = 0.7587	AVERAGE = 0.0007									
$X/R_t = 0.610$ $R/R_t = 1.02$ POINT NUMBER = 6										0.0038	0.0035	-0.0065	0.0055	0.0027	0.0025	
0.7678	0.7664	0.7652	0.7688	0.7620	0.7654	-0.0022	-0.0049	0.0069	0.0042	0.0034	0.0025					
0.7602	0.7553	0.7569	0.7542	0.7534	0.7584	0.0007	0.0004	0.0003	-0.0037	-0.0013	-0.0022					
0.7578	0.7555	0.7612	0.7596	0.7627	0.7658	0.0004	-0.0038	-0.0025	-0.0020	-0.0012	0.0007					
0.7653	0.7680	0.7629	0.7644	0.7643	0.7639	0.0005	0.0012	0.0035	0.0030	0.0046	0.0021					
0.7616	0.7674	0.7678	0.7702	0.7680	0.7664	AVERAGE = 0.7628	AVERAGE = 0.0007									
$X/R_t = 0.640$ $R/R_t = 1.02$ POINT NUMBER = 7										0.0039	0.0105	0.0112	0.0151	0.0163	0.0164	
0.7666	0.7644	0.7604	0.7576	0.7571	0.7532	0.0154	0.0151	0.0134	0.0148	0.0021	-0.0089					
0.7458	0.7498	0.7453	0.7492	0.7349	0.7485	-0.0121	-0.0066	-0.0033	-0.0058	-0.0079	-0.0035					
0.7601	0.7627	0.7633	0.7685	0.7778	0.7750	-0.0052	-0.0052	-0.0031	0.0007	-0.0039	0.0021					
0.7779	0.7824	0.7787	0.7736	0.7762	0.7763	-0.0040	-0.0020	-0.0010	0.0048	0.0013	0.0067					
0.7761	0.7809	0.7755	0.7759	0.7767	0.7737	AVERAGE = 0.7640	AVERAGE = 0.0026									
$X/R_t = 0.730$ $R/R_t = 1.02$ POINT NUMBER = 8										0.0092	0.0100	0.0124	0.0152	0.0169	0.0135	
0.7641	0.7614	0.7563	0.7569	0.7573	0.7549	0.0164	0.0168	0.0181	0.0193	0.0164	-0.0348					
0.7575	0.7507	0.7527	0.7423	0.7424	0.7660	-0.0190	-0.0123	-0.0071	-0.0044	-0.0031	-0.0010					
0.7562	0.7646	0.7637	0.7702	0.7694	0.7674	-0.0026	0.0022	0.0017	0.0078	-0.0006	0.0027					
0.7711	0.7696	0.7714	0.7685	0.7743	0.7750	0.0028	0.0041	0.0095	0.0071	0.0109	0.0098					
0.7777	0.7748	0.7663	0.7636	0.7607	0.7658	AVERAGE = 0.7685	AVERAGE = -0.0019									
$X/R_t = 0.770$ $R/R_t = 1.02$ POINT NUMBER = 9										0.0160	0.0131	0.0162	0.0147	0.0151	0.0148	
0.7630	0.7623	0.7568	0.7611	0.7567	0.7612	0.0160	0.0173	0.0206	0.0223	0.0250	0.0195					
0.7551	0.7562	0.7530	0.7504	0.7506	0.7508	0.0459	-0.0440	-0.0231	-0.0123	-0.0021	-0.0005					
0.7488	0.7425	0.7566	0.7727	0.7744	0.7688	0.0021	0.0030	0.0003	0.0002	0.0050	0.0055					
0.7759	0.7806	0.7844	0.7788	0.7748	0.7738	0.0065	0.0097	0.0139	0.0136	0.0100	0.0095					
0.7722	0.7662	0.7652	0.7647	0.7613	0.7619	AVERAGE = 0.7613	AVERAGE = 0.0086									

TABLE V. - Continued.

(25) Continued.

AXIAL VELOCITY							TANGENTIAL VELOCITY						
$X/R_t = 0.860 R/R_t = 1.02$ POINT NUMBER = 10													
0.7656	0.7613	0.7644	0.7631	0.7615	0.7609	0.0250	0.0264	0.0250	0.0274	0.0232	0.0234		
0.7598	0.7600	0.7603	0.7551	0.7564	0.7566	0.0302	0.0310	0.0331	0.0353	0.0308	0.0282		
0.7567	0.7590	0.7757	0.7519	0.7756	0.7610	0.0306	0.0285	0.0275	0.0413	-0.0106	-0.0249		
0.7757	0.7733	0.7683	0.7638	0.7635	0.7658	-0.0025	0.0039	0.0127	0.0218	0.0163	0.0218		
0.7643	0.7667	0.7649	0.7601	0.7618	0.7685	0.0232	0.0213	0.0216	0.0193	0.0237	0.0241		
AVERAGE = 0.7623							AVERAGE = 0.0207						
$X/R_t = 0.944 R/R_t = 1.02$ POINT NUMBER = 11													
0.7715	0.7745	0.7733	0.7661	0.7704	0.7657	0.0236	0.0237	0.0265	0.0250	0.0305	0.0276		
0.7615	0.7639	0.7682	0.7660	0.7664	0.7677	0.0285	0.0314	0.0357	0.0316	0.0311	0.0310		
0.7625	0.7639	0.7695	0.7684	0.7679	0.7778	0.0277	0.0257	0.0222	0.0204	0.0247	0.0541		
0.7719	0.8164	0.7525	0.7595	0.7695	0.7677	0.0389	0.0325	-0.0114	-0.0046	0.0146	0.0157		
0.7710	0.7735	0.7716	0.7746	0.7699	0.7725	0.0256	0.0216	0.0234	0.0235	0.0234	0.0228		
AVERAGE = 0.7674							AVERAGE = 0.0232						
$X/R_t = 1.010 R/R_t = 1.02$ POINT NUMBER = 12													
0.7719	0.7725	0.7725	0.7738	0.7751	0.7721	0.0237	0.0244	0.0262	0.0279	0.0307	0.0294		
0.7683	0.7732	0.7732	0.7730	0.7728	0.7748	0.0281	0.0293	0.0298	0.0301	0.0293	0.0288		
0.7734	0.7744	0.7727	0.7746	0.7708	0.7705	0.0288	0.0278	0.0224	0.0236	0.0244	0.0250		
0.7740	0.7825	0.7611	XXXXXX	XXXXXX	0.7606	0.0286	0.0442	0.0622	XXXXXX	XXXXXX	0.0005		
0.7594	0.7771	0.7761	0.7767	0.7785	0.7761	-0.0008	0.0189	0.0207	0.0252	0.0257	0.0249		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.090 R/R_t = 1.02$ POINT NUMBER = 13													
0.7746	0.7837	0.7748	0.7772	0.7721	0.7766	0.0250	0.0355	0.0253	0.0319	0.0278	0.0325		
0.7804	0.7779	0.7797	0.7739	0.7804	0.7787	0.0338	0.0333	0.0350	0.0288	0.0344	0.0307		
0.7789	0.7797	0.7803	0.7772	0.7761	0.7778	0.0273	0.0253	0.0284	0.0294	0.0248	0.0243		
0.7785	0.7786	0.7815	0.7832	0.7693	XXXXXX	0.0328	0.0286	0.0324	0.0450	0.0665	XXXXXX		
XXXXXX	XXXXXX	0.7659	0.7715	0.7769	0.7778	XXXXXX	XXXXXX	0.0180	0.0115	0.0223	0.0220		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.167 R/R_t = 1.02$ POINT NUMBER = 14													
0.7707	0.7788	0.7795	0.7844	0.7790	0.7826	0.0166	0.0252	0.0286	0.0340	0.0318	0.0333		
0.7820	0.7833	0.7877	0.7802	0.7835	0.7829	0.0329	0.0298	0.0355	0.0293	0.0290	0.0268		
0.7855	0.7801	0.7854	0.7778	0.7797	0.7794	0.0287	0.0232	0.0289	0.0252	0.0250	0.0288		
0.7837	0.7820	0.7837	0.7812	0.7823	0.7912	0.0294	0.0286	0.0301	0.0280	0.0316	0.0384		
0.7905	0.7657	XXXXXX	XXXXXX	XXXXXX	0.7787	0.0538	0.0696	XXXXXX	XXXXXX	XXXXXX	0.0310		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.250 R/R_t = 1.02$ POINT NUMBER = 15													
XXXXXX	XXXXXX	0.7842	0.7719	0.7746	0.7768	XXXXXX	XXXXXX	0.0420	0.0202	0.0266	0.0282		
0.7799	0.7829	0.7820	0.7848	0.7846	0.7863	0.0300	0.0325	0.0327	0.0299	0.0306	0.0265		
0.7855	0.7848	0.7820	0.7817	0.7854	0.7833	0.0293	0.0286	0.0272	0.0290	0.0282	0.0290		
0.7863	0.7842	0.7851	0.7827	0.7845	0.7813	0.0309	0.0317	0.0316	0.0302	0.0331	0.0281		
0.7846	0.7851	0.7888	0.7810	0.7829	XXXXXX	0.0353	0.0362	0.0472	0.0597	0.0401	XXXXXX		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.370 R/R_t = 1.02$ POINT NUMBER = 16													
0.7810	0.7769	0.7887	XXXXXX	XXXXXX	XXXXXX	0.0436	0.0574	0.0428	XXXXXX	XXXXXX	XXXXXX		
XXXXXX	0.7730	0.7682	0.7806	0.7798	0.7851	XXXXXX	0.0217	0.0132	0.0257	0.0274	0.0304		
0.7856	0.7840	0.7824	0.7849	0.7847	0.7860	0.0302	0.0288	0.0299	0.0294	0.0280	0.0300		
0.7816	0.7832	0.7820	0.7814	0.7844	0.7818	0.0276	0.0296	0.0277	0.0262	0.0342	0.0324		
0.7812	0.7805	0.7761	0.7812	0.7819	0.7849	0.0316	0.0334	0.0262	0.0351	0.0356	0.0412		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.490 R/R_t = 1.02$ POINT NUMBER = 17													
0.7800	0.7803	0.7782	0.7830	0.7795	0.7837	0.0362	0.0360	0.0340	0.0415	0.0426	0.0555		
0.7696	0.7583	XXXXXX	XXXXXX	0.7142	0.7716	0.0424	0.0269	XXXXXX	XXXXXX	-0.0004	0.0252		
0.7723	0.7682	0.7775	0.7807	0.7765	0.7787	0.0224	0.0158	0.0252	0.0291	0.0299	0.0316		
0.7775	0.7762	0.7764	0.7791	0.7807	0.7788	0.0294	0.0309	0.0298	0.0332	0.0344	0.0315		
0.7797	0.7757	0.7794	0.7753	0.7770	0.7805	0.0327	0.0353	0.0340	0.0322	0.0371	0.0358		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						

TABLE V. - Continued.

(25) Concluded.

AXIAL VELOCITY

TANGENTIAL VELOCITY

 $X/R_t = 1.660 \quad R/R_t = 1.02 \quad$ POINT NUMBER = 18

0.7754	0.7802	0.7783	0.7773	0.7770	0.7757	0.0339	0.0343	0.0311	0.0346	0.0331	0.0308
0.7786	0.7743	0.7813	0.7834	0.7724	0.7712	0.0337	0.0341	0.0402	0.0434	0.0455	0.0543
0.7847	XXXXXX	XXXXXX	XXXXXX	XXXXXX	0.7620	0.0519	XXXXXX	XXXXXX	XXXXXX	XXXXXX	0.0311
0.7600	0.7598	0.7696	0.7684	0.7687	0.7720	0.0225	0.0192	0.0261	0.0272	0.0284	0.0325
0.7766	0.7735	0.7714	0.7726	0.7764	0.7755	0.0327	0.0300	0.0332	0.0303	0.0361	0.0321
AVERAGE = XXXXXX						AVERAGE = XXXXXX					

(26) Interblade velocity for powered operation: nominal $X/R_t = 1.12$; $A_T = 340.95 \text{ m/s}$ (1118.6 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY

TANGENTIAL VELOCITY

 $X/R_t = 0.120 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 1

0.7441	0.7418	0.7415	0.7463	0.7406	0.7440	0.0011	-0.0006	0.0001	0.0046	-0.0026	0.0037
0.7434	0.7428	0.7421	0.7417	0.7431	0.7420	0.0019	0.0005	0.0004	0.0024	-0.0001	-0.0001
0.7444	0.7440	0.7427	0.7407	0.7445	0.7423	0.0001	0.0046	0.0020	0.0018	0.0015	0.0011
0.7415	0.7404	0.7416	0.7399	0.7379	0.7422	0.0021	-0.0008	0.0014	0.0007	0.0013	0.0053
0.7393	0.7403	0.7419	0.7402	0.7406	0.7407	0.0024	0.0032	0.0022	0.0013	0.0033	0.0004
AVERAGE = 0.7419						AVERAGE = 0.0016					

 $X/R_t = 0.280 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 2

0.7481	0.7502	0.7493	0.7486	0.7477	0.7480	-0.0004	0.0027	0.0015	0.0015	0.0001	-0.0023
0.7506	0.7478	0.7469	0.7461	0.7478	0.7463	0.0030	0.0009	0.0017	-0.0004	0.0021	0.0019
0.7464	0.7465	0.7437	0.7460	0.7456	0.7457	0.0021	0.0024	-0.0004	0.0030	0.0038	0.0016
0.7439	0.7444	0.7460	0.7473	0.7478	0.7458	0.0015	0.0014	0.0018	0.0036	-0.0006	0.0013
0.7466	0.7463	0.7464	0.7477	0.7471	0.7449	-0.0004	-0.0004	0.0009	-0.0010	0.0006	0.0021
AVERAGE = 0.7468						AVERAGE = 0.0013					

 $X/R_t = 0.530 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 4

0.7551	0.7552	0.7565	0.7551	0.7549	0.7579	0.0023	0.0021	0.0053	0.0014	0.0044	0.0019
0.7565	0.7560	0.7538	0.7582	0.7573	0.7576	0.0023	0.0011	0.0021	0.0020	0.0018	0.0029
0.7575	0.7615	0.7616	0.7604	0.7573	0.7611	0.0013	0.0004	-0.0024	-0.0021	-0.0052	-0.0013
0.7627	0.7601	0.7604	0.7596	0.7610	0.7562	-0.0022	-0.0004	0.0006	0.0006	0.0005	0.0005
0.7538	0.7566	0.7525	0.7548	0.7542	0.7551	0.0022	0.0027	0.0006	-0.0004	0.0030	0.0040
AVERAGE = 0.7574						AVERAGE = 0.0012					

 $X/R_t = 0.610 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 5

0.7647	0.7634	0.7631	0.7652	0.7637	0.7668	-0.0018	-0.0010	-0.0010	0.0026	0.0040	-0.0015
0.7648	0.7672	0.7662	0.7647	0.7626	0.7566	0.0017	-0.0008	0.0007	-0.0019	0.0013	0.0015
0.7534	0.7593	0.7586	0.7547	0.7580	0.7571	0.0023	0.0043	0.0021	0.0037	0.0008	-0.0008
0.7553	0.7612	0.7576	0.7566	0.7613	0.7576	-0.0019	-0.0012	0.0003	0.0024	0.0001	0.0009
0.7610	0.7611	0.7612	0.7600	0.7607	0.7627	0.0028	0.0026	0.0016	0.0045	-0.0003	-0.0006
AVERAGE = 0.7609						AVERAGE = 0.0008					

 $X/R_t = 0.690 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 6

0.7706	0.7749	0.7694	0.7659	0.7632	0.7593	-0.0010	-0.0019	-0.0015	0.0049	0.0078	0.0083
0.7571	0.7545	0.7513	0.7538	0.7496	0.7478	0.0094	0.0083	0.0089	0.0102	0.0085	0.0104
0.7525	0.7499	0.7525	0.7550	0.7562	0.7585	0.0084	0.0059	0.0023	0.0021	-0.0012	-0.0005
0.7618	0.7621	0.7628	0.7679	0.7674	0.7674	-0.0041	-0.0013	-0.0062	-0.0055	-0.0038	-0.0018
0.7697	0.7708	0.7710	0.7715	0.7745	0.7735	-0.0007	-0.0044	-0.0024	0.0017	0.0016	-0.0007
AVERAGE = 0.7618						AVERAGE = 0.0021					

 $X/R_t = 0.730 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 7

0.7657	0.7615	0.7562	0.7584	0.7591	0.7551	0.0016	0.0033	0.0071	0.0086	0.0087	0.0102
0.7539	0.7534	0.7532	0.7496	0.7482	0.7488	0.0110	0.0112	0.0108	0.0105	0.0088	0.0107
0.7503	0.7512	0.7548	0.7557	0.7540	0.7567	0.0087	0.0027	-0.0007	-0.0029	-0.0038	-0.0046
0.7611	0.7623	0.7633	0.7652	0.7669	0.7676	-0.0044	-0.0051	-0.0046	-0.0062	-0.0065	-0.0058
0.7709	0.7691	0.7705	0.7688	0.7718	0.7695	-0.0058	-0.0030	-0.0032	-0.0051	-0.0039	-0.0024
AVERAGE = 0.7592						AVERAGE = 0.0016					

 $X/R_t = 0.770 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 8

0.7603	0.7586	0.7547	0.7544	0.7577	0.7527	0.0097	0.0116	0.0096	0.0101	0.0132	0.0129
0.7522	0.7520	0.7557	0.7499	0.7487	0.7491	0.0117	0.0118	0.0108	0.0128	0.0117	0.0088
0.7491	0.7498	0.7504	0.7548	0.7586	0.7580	0.0064	0.0031	-0.0048	-0.0023	-0.0108	-0.0069
0.7626	0.7625	0.7680	0.7719	0.7677	0.7681	-0.0091	-0.0070	-0.0109	-0.0060	-0.0088	-0.0041
0.7684	0.7702	0.7730	0.7626	0.7635	0.7585	-0.0039	-0.0008	-0.0033	0.0030	0.0034	0.0061
AVERAGE = 0.7586						AVERAGE = 0.0023					

TABLE V. - Continued.

(26) Continued.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$X/R_t = 0.850 \quad R/R_t = 1.12$						POINT NUMBER = 9					
0.7558	0.7568	0.7572	0.7591	0.7567	0.7591	0.0154	0.0140	0.0134	0.0176	0.0187	0.0185
0.7551	0.7515	0.7532	0.7483	0.7512	0.7512	0.0168	0.0144	0.0189	0.0182	0.0191	0.0142
0.7496	0.7476	0.7457	0.7502	0.7467	0.7557	0.0081	0.0015	-0.0015	-0.0114	-0.0211	-0.0265
0.7612	0.7619	0.7587	0.7583	0.7577	0.7582	-0.0206	-0.0198	-0.0146	-0.0135	-0.0060	0.0021
0.7570	0.7560	0.7557	0.7581	0.7571	0.7555	0.0013	0.0069	0.0088	0.0094	0.0105	0.0113
AVERAGE	= 0.7539					AVERAGE = 0.0038					
$X/R_t = 0.930 \quad R/R_t = 1.12$						POINT NUMBER = 10					
0.7600	0.7594	0.7611	0.7604	0.7610	0.7576	0.0123	0.0118	0.0128	0.0153	0.0159	0.0156
0.7619	0.7576	0.7560	0.7609	0.7570	0.7593	0.0203	0.0219	0.0221	0.0207	0.0159	0.0134
0.7533	0.7586	0.7577	0.7624	0.7527	0.7436	0.0062	0.0088	-0.0014	-0.0119	-0.0167	-0.0239
0.7454	0.7365	0.7416	0.7446	0.7477	0.7472	-0.0208	-0.0240	-0.0203	-0.0143	-0.0111	-0.0080
0.7495	0.7568	0.7570	0.7534	0.7576	0.7594	-0.0038	0.0011	0.0066	0.0080	0.0104	0.0101
AVERAGE	= 0.7539					AVERAGE = 0.0021					
$X/R_t = 1.010 \quad R/R_t = 1.12$						POINT NUMBER = 11					
0.7594	0.7588	0.7597	0.7588	0.7600	0.7613	0.0094	0.0066	0.0114	0.0133	0.0163	0.0172
0.7576	0.7616	0.7645	0.7649	0.7622	0.7631	0.0190	0.0199	0.0225	0.0179	0.0169	0.0160
0.7643	0.7704	0.7697	0.7639	0.7592	0.7542	0.0143	0.0066	0.0009	-0.0015	-0.0097	-0.0080
0.7512	0.7441	0.7376	0.7337	0.7333	0.7379	-0.0079	-0.0142	-0.0211	-0.0249	-0.0196	-0.0170
0.7398	0.7460	0.7508	0.7533	0.7535	0.7591	-0.0156	-0.0084	-0.0046	-0.0013	0.0046	0.0085
AVERAGE	= 0.7541					AVERAGE = 0.0012					
$X/R_t = 1.080 \quad R/R_t = 1.12$						POINT NUMBER = 12					
0.7572	0.7601	0.7579	0.7639	0.7629	0.7625	0.0017	0.0052	0.0066	0.0130	0.0155	0.0186
0.7652	0.7661	0.7664	0.7677	0.7709	0.7674	0.0210	0.0171	0.0162	0.0164	0.0180	0.0122
0.7728	0.7684	0.7677	0.7685	0.7656	0.7606	0.0160	0.0065	0.0043	0.0044	0.0021	0.0036
0.7615	0.7551	0.7542	0.7453	0.7433	0.7384	0.0021	-0.0025	-0.0024	-0.0098	-0.0126	-0.0180
0.7345	0.7357	0.7412	0.7459	0.7491	0.7516	-0.0247	-0.0229	-0.0162	-0.0098	-0.0082	-0.0037
AVERAGE	= 0.7565					AVERAGE = 0.0013					
$X/R_t = 1.170 \quad R/R_t = 1.12$						POINT NUMBER = 13					
0.7407	0.7497	0.7510	0.7558	0.7575	0.7578	-0.0098	-0.0019	0.0020	0.0080	0.0102	0.0132
0.7617	0.7620	0.7668	0.7671	0.7678	0.7706	0.0148	0.0148	0.0156	0.0174	0.0147	0.0145
0.7713	0.7732	0.7701	0.7720	0.7699	0.7692	0.0113	0.0100	0.0089	0.0055	0.0093	0.0065
0.7685	0.7643	0.7630	0.7591	0.7556	0.7501	0.0046	0.0048	0.0046	0.0036	-0.0009	-0.0057
0.7457	0.7409	0.7323	0.7331	0.7315	0.7363	-0.0115	-0.0137	-0.0226	-0.0222	-0.0236	-0.0146
AVERAGE	= 0.7555					AVERAGE = 0.0011					
$X/R_t = 1.250 \quad R/R_t = 1.12$						POINT NUMBER = 14					
0.7313	0.7334	0.7360	0.7435	0.7494	0.7541	-0.0207	-0.0190	-0.0122	-0.0075	-0.0005	0.0030
0.7576	0.7614	0.7625	0.7648	0.7674	0.7713	0.0055	0.0079	0.0125	0.0124	0.0125	0.0125
0.7712	0.7742	0.7704	0.7702	0.7682	0.7707	0.0049	0.0116	0.0128	0.0090	0.0119	0.0122
0.7672	0.7635	0.7646	0.7657	0.7627	0.7601	0.0097	0.0112	0.0095	0.0089	0.0065	0.0047
0.7534	0.7534	0.7483	0.7460	0.7382	0.7344	0.0016	-0.0021	-0.0065	-0.0089	-0.0147	-0.0179
AVERAGE	= 0.7567					AVERAGE = 0.0018					
$X/R_t = 1.370 \quad R/R_t = 1.12$						POINT NUMBER = 15					
0.7482	0.7449	0.7355	0.7324	0.7279	0.7326	-0.0020	-0.0053	-0.0097	-0.0131	-0.0192	-0.0173
0.7342	0.7419	0.7464	0.7509	0.7597	0.7608	-0.0137	-0.0114	-0.0047	-0.0021	0.0011	0.0042
0.7635	0.7677	0.7666	0.7666	0.7697	0.7674	0.0065	0.0088	0.0092	0.0122	0.0097	0.0106
0.7692	0.7696	0.7697	0.7688	0.7693	0.7695	0.0154	0.0116	0.0152	0.0156	0.0148	0.0124
0.7650	0.7647	0.7625	0.7601	0.7571	0.7551	0.0114	0.0124	0.0106	0.0074	0.0077	0.0039
AVERAGE	= 0.7551					AVERAGE = 0.0021					
$X/R_t = 1.490 \quad R/R_t = 1.12$						POINT NUMBER = 16					
0.7601	0.7567	0.7576	0.7532	0.7472	0.7417	0.0134	0.0115	0.0052	0.0062	-0.0003	-0.0053
0.7389	0.7376	0.7325	0.7318	0.7350	0.7381	-0.0097	-0.0159	-0.0200	-0.0204	-0.0175	-0.0158
0.7425	0.7479	0.7512	0.7554	0.7618	0.7591	-0.0080	-0.0046	0.0016	0.0062	0.0088	0.0114
0.7599	0.7628	0.7644	0.7653	0.7644	0.7646	0.0113	0.0129	0.0136	0.0172	0.0149	0.0157
0.7678	0.7638	0.7617	0.7630	0.7635	0.7605	0.0173	0.0170	0.0183	0.0167	0.0152	0.0129
AVERAGE	= 0.7515					AVERAGE = 0.0022					

TABLE V. - Continued.

(26) Concluded.

AXIAL VELOCITY						TANGENTIAL VELOCITY					
$X/R_t = 1.660 \quad R/R_t = 1.12$ POINT NUMBER = 17											
0.7604	0.7631	0.7589	0.7583	0.7572	0.7558	0.0164	0.0184	0.0161	0.0142	0.0153	0.0143
0.7557	0.7573	0.7534	0.7474	0.7419	0.7400	0.0112	0.0105	0.0064	-0.0001	-0.0034	-0.0069
0.7298	0.7286	0.7237	0.7239	0.7223	0.7283	-0.0124	-0.0163	-0.0201	-0.0208	-0.0194	-0.0130
0.7365	0.7405	0.7434	0.7501	0.7527	0.7551	-0.0051	-0.0041	0.0004	0.0054	0.0097	0.0150
0.7551	0.7574	0.7610	0.7618	0.7610	0.7614	0.0163	0.0167	0.0164	0.0156	0.0144	0.0166
AVERAGE = 0.7456						AVERAGE = 0.0017					

(27) Interblade velocity for powered operation: nominal $X/R_t = 0.50$; $A_T = 356.52 \text{ m/s}$ (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = -0.060 \quad R/R_t = 0.50$ POINT NUMBER = 1											
0.7161	0.7143	0.7156	0.7138	0.7198	0.7157	0.0122	0.0162	0.0147	0.0174	0.0121	0.0160
0.7178	0.7165	0.7169	0.7174	0.7180	0.7177	0.0126	0.0115	0.0124	0.0118	0.0138	0.0138
0.7187	0.7191	0.7195	0.7192	0.7191	0.7154	0.0113	0.0121	0.0111	0.0128	0.0149	0.0128
0.7195	0.7188	0.7182	0.7151	0.7174	0.7166	0.0116	0.0119	0.0143	0.0141	0.0154	0.0127
0.7151	0.7163	0.7174	0.7168	0.7159	0.7169	0.0136	0.0123	0.0133	0.0123	0.0152	0.0143
AVERAGE = 0.7174						AVERAGE = 0.0137					
$X/R_t = 0.151 \quad R/R_t = 0.50$ POINT NUMBER = 2											
0.7117	0.7080	0.7098	0.7112	0.7087	0.7113	0.0315	0.0314	0.0322	0.0297	0.0328	0.0344
0.7099	0.7098	0.7087	0.7082	0.7098	0.7103	0.0319	0.0309	0.0307	0.0353	0.0325	0.0333
0.7088	0.7087	0.7066	0.7112	0.7143	0.7127	0.0326	0.0346	0.0298	0.0303	0.0309	0.0301
0.7115	0.7100	0.7110	0.7106	0.7127	0.7123	0.0322	0.0298	0.0305	0.0331	0.0327	0.0292
0.7117	0.7122	0.7130	0.7102	0.7127	0.7122	0.0321	0.0330	0.0298	0.0321	0.0321	0.0300
AVERAGE = 0.7105						AVERAGE = 0.0318					
$X/R_t = 0.233 \quad R/R_t = 0.50$ POINT NUMBER = 3											
0.7091	0.7087	0.7110	0.7102	0.7115	0.7123	0.0445	0.0424	0.0379	0.0411	0.0397	0.0416
0.7110	0.7101	0.7079	0.7072	0.7121	0.7126	0.0379	0.0419	0.0384	0.0383	0.0387	0.0370
0.7108	0.7081	0.7129	0.7080	0.7086	0.7098	0.0417	0.0415	0.0389	0.0402	0.0386	0.0383
0.7106	0.7089	0.7099	0.7098	0.7113	0.7087	0.0402	0.0401	0.0362	0.0388	0.0398	0.0403
0.7129	0.7112	0.7109	0.7142	0.7094	0.7113	0.0400	0.0379	0.0429	0.0381	0.0426	0.0405
AVERAGE = 0.7104						AVERAGE = 0.0398					
$X/R_t = 0.320 \quad R/R_t = 0.50$ POINT NUMBER = 4											
0.7119	0.7095	0.7110	0.7079	0.7090	0.7085	0.0469	0.0490	0.0485	0.0508	0.0493	0.0476
0.7099	0.7067	0.7078	0.7061	0.7080	0.7085	0.0492	0.0432	0.0495	0.0473	0.0489	0.0480
0.7074	0.7078	0.7085	0.7106	0.7137	0.7114	0.0450	0.0486	0.0488	0.0502	0.0498	0.0510
0.7125	0.7137	0.7104	0.7121	0.7123	0.7152	0.0474	0.0497	0.0470	0.0474	0.0486	0.0496
0.7133	0.7145	0.7115	0.7139	0.7140	0.7145	0.0486	0.0457	0.0498	0.0505	0.0466	0.0498
AVERAGE = 0.7110						AVERAGE = 0.0481					
$X/R_t = 0.355 \quad R/R_t = 0.50$ POINT NUMBER = 5											
0.7105	0.7080	0.7051	0.6962	0.6967	0.6953	0.0509	0.0549	0.0522	0.0526	0.0557	0.0513
0.7033	0.7038	0.7042	0.7074	0.7098	0.7123	0.0489	0.0494	0.0513	0.0501	0.0495	0.0496
0.7135	0.7110	0.7092	0.7135	0.7147	0.7165	0.0484	0.0470	0.0468	0.0488	0.0519	0.0459
0.7106	0.7141	0.7167	0.7155	0.7171	0.7151	0.0481	0.0463	0.0487	0.0460	0.0515	0.0518
0.7141	0.7179	0.7141	0.7124	0.7129	0.7112	0.0495	0.0484	0.0525	0.0533	0.0533	0.0555
AVERAGE = 0.7100						AVERAGE = 0.0502					
$X/R_t = 0.743 \quad R/R_t = 0.50$ POINT NUMBER = 6											
0.7849	0.7841	0.7842	0.7818	XXXXXX	XXXXXX	0.0844	0.0840	0.0815	0.0775	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	0.8067	0.8113	0.8043	XXXXXX	XXXXXX	XXXXXX	0.0825	0.0868	0.0855
0.8019	0.7963	0.7940	0.7919	0.7887	0.7888	0.0853	0.0848	0.0874	0.0859	0.0863	0.0851
AVERAGE = XXXXXX						AVERAGE = XXXXXX					
$X/R_t = 0.833 \quad R/R_t = 0.50$ POINT NUMBER = 7											
0.7887	0.7881	0.7864	0.7865	0.7790	0.7834	0.0875	0.0901	0.0878	0.0885	0.0822	0.0862
XXXXXX	XXXXXX	XXXXXX	0.7750	0.7746	0.7746	XXXXXX	XXXXXX	XXXXXX	0.0781	0.0754	0.0735
0.7775	0.7756	0.7717	0.7687	0.7571	0.7236	0.0729	0.0711	0.0723	0.0757	0.0734	0.0781
0.7030	0.6585	0.7652	0.8024	0.7958	0.7990	0.0722	0.0636	0.0875	0.1029	0.0963	0.0977
0.7958	0.7914	0.7903	0.7922	0.7881	0.7932	0.0981	0.0943	0.0879	0.0963	0.0899	0.0960
AVERAGE = XXXXXX						AVERAGE = XXXXXX					

TABLE V. - Continued.

(27) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.920 R/R_t = 0.50$ POINT NUMBER = 8											
0.7991	0.7968	0.8005	0.7953	0.7946	0.7907	0.0993	0.0967	0.0945	0.0935	0.0893	0.0880
0.7868	0.7891	0.7884	0.7917	0.7881	0.7854	0.0899	0.0874	0.0815	0.0867	0.0854	0.0769
0.7834	0.7862	0.7867	0.7845	0.7746	0.7669	0.0757	0.0793	0.0751	0.0720	0.0760	0.0771
0.7558	0.7318	0.7110	0.7145	0.7445	0.8001	0.0740	0.0794	0.0737	0.0710	0.0621	0.0991
0.8074	0.8023	0.8000	0.7998	0.7974	0.8016	0.1076	0.1036	0.0967	0.0988	0.0947	0.0995
AVERAGE	= 0.7769					AVERAGE	= 0.0849				
$X/R_t = 0.996 R/R_t = 0.50$ POINT NUMBER = 9											
0.8111	0.8141	0.8188	0.8154	0.8209	0.8173	0.0855	0.0846	0.0883	0.0833	0.0894	0.0849
0.8148	0.8133	0.8166	0.8150	0.8177	0.8165	0.0745	0.0776	0.0756	0.0722	0.0706	0.0726
0.8205	0.8183	0.8219	0.8191	0.8138	0.8147	0.0681	0.0722	0.0668	0.0624	0.0580	0.0588
0.8181	0.8081	0.7900	0.7630	0.7532	0.7486	0.0561	0.0538	0.0550	0.0704	0.0648	0.0664
0.7760	0.7922	0.8164	0.8146	0.8145	0.8073	0.0465	0.0612	0.1009	0.0942	0.0895	0.0799
AVERAGE	= 0.8008					AVERAGE	= 0.0683				
$X/R_t = 1.118 R/R_t = 0.50$ POINT NUMBER = 10											
0.8431	0.8460	0.8435	0.8467	0.8412	0.8423	0.0787	0.0830	0.0727	0.0712	0.0740	0.0750
0.8445	0.8435	0.8453	0.8441	0.8426	0.8446	0.0645	0.0666	0.0643	0.0603	0.0617	0.0571
0.8465	0.8435	0.8424	0.8422	0.8421	0.8438	0.0563	0.0549	0.0522	0.0480	0.0442	0.0399
0.8436	0.8391	0.8430	0.8452	0.8306	0.8253	0.0382	0.0383	0.0317	0.0269	0.0322	0.0357
0.8086	0.7858	0.7808	0.8119	0.8288	0.8447	0.0367	0.0466	0.0495	0.0378	0.0688	0.0794
AVERAGE	= 0.8333					AVERAGE	= 0.0507				
$X/R_t = 1.241 R/R_t = 0.50$ POINT NUMBER = 11											
0.7935	0.8223	0.8428	0.8423	0.8451	0.8489	0.0429	0.0426	0.0538	0.0574	0.0483	0.0491
0.8465	0.8453	0.8427	0.8465	0.8435	0.8375	0.0513	0.0503	0.0497	0.0470	0.0458	0.0480
0.8415	0.8389	0.8386	0.8406	0.8366	0.8406	0.0455	0.0433	0.0416	0.0341	0.0373	0.0340
0.8408	0.8360	0.8413	0.8398	0.8340	0.8430	0.0309	0.0286	0.0224	0.0234	0.0186	0.0152
0.8422	0.8359	0.8202	0.8083	0.7952	0.7897	0.0139	0.0090	0.0149	0.0228	0.0304	0.0335
AVERAGE	= 0.8326					AVERAGE	= 0.0344				
$X/R_t = 1.404 R/R_t = 0.50$ POINT NUMBER = 12											
0.8076	0.7941	0.7856	0.7869	0.7897	0.8087	-0.0087	-0.0072	-0.0077	0.0013	0.0136	0.0194
0.8100	0.8283	0.8311	0.8292	0.8245	0.8284	0.0358	0.0229	0.0215	0.0323	0.0333	0.0325
0.8206	0.8186	0.8216	0.8191	0.8157	0.8224	0.0280	0.0353	0.0375	0.0368	0.0367	0.0308
0.8286	0.8262	0.8160	0.8288	0.8148	0.8265	0.0226	0.0210	0.0294	0.0138	0.0174	0.0051
0.8134	0.8227	0.8131	0.8186	0.8177	0.8220	0.0153	0.0107	0.0139	0.0017	0.0034	-0.0091
AVERAGE	= 0.8117					AVERAGE	= 0.0138				

(28) Interblade velocity for powered operation: nominal $X/R_t = 0.77$; $A_t = 356.52 \text{ m/s}$ (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = -0.060 R/R_t = 0.77$ POINT NUMBER = 1											
0.7252	0.7307	0.7257	0.7258	0.7290	0.7294	0.0115	0.0188	0.0142	0.0148	0.0167	0.
0.7286	0.7286	0.7287	0.7341	0.7305	0.7306	0.0127	0.0120	0.0124	0.0138	0.0118	0.
0.7310	0.7273	0.7281	0.7283	0.7294	0.7265	0.0166	0.0134	0.0169	0.0136	0.0139	0.
0.7276	0.7267	0.7275	0.7258	0.7283	0.7275	0.0156	0.0163	0.0130	0.0129	0.0141	0.
0.7260	0.7292	0.7257	0.7275	0.7266	0.7301	0.0119	0.0162	0.0138	0.0147	0.0132	0.
AVERAGE	= 0.7282					AVERAGE	= 0.0144				
$X/R_t = 0.151 R/R_t = 0.77$ POINT NUMBER = 2											
0.7328	0.7311	0.7304	0.7313	0.7333	0.7276	0.0276	0.0245	0.0250	0.0235	0.0225	0.
0.7275	0.7304	0.7337	0.7323	0.7284	0.7299	0.0218	0.0227	0.0256	0.0250	0.0261	0.
0.7296	0.7286	0.7295	0.7311	0.7325	0.7304	0.0227	0.0233	0.0225	0.0185	0.0262	0.
0.7300	0.7314	0.7311	0.7307	0.7337	0.7333	0.0245	0.0206	0.0246	0.0227	0.0197	0.
0.7339	0.7303	0.7316	0.7295	0.7318	0.7318	0.0248	0.0215	0.0218	0.0251	0.0249	0.
AVERAGE	= 0.7310					AVERAGE	= 0.0233				
$X/R_t = 0.320 R/R_t = 0.77$ POINT NUMBER = 3											
0.7326	0.7360	0.7386	0.7375	0.7293	0.7381	0.0287	0.0312	0.0336	0.0291	0.0269	0.
0.7379	0.7377	0.7342	0.7385	0.7361	0.7310	0.0327	0.0297	0.0317	0.0335	0.0316	0.
0.7342	0.7345	0.7322	0.7360	0.7366	0.7360	0.0305	0.0297	0.0313	0.0299	0.0340	0.
0.7373	0.7358	0.7369	0.7371	0.7346	0.7345	0.0318	0.0313	0.0329	0.0270	0.0272	0.
0.7347	0.7352	0.7356	0.7393	0.7395	0.7371	0.0259	0.0299	0.0313	0.0308	0.0324	0.0297
AVERAGE	= 0.7357					AVERAGE	= 0.0308				

TABLE V. - Continued.

(28) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.478 \quad R/R_t = 0.77$ POINT NUMBER = 4											
0.7462	0.7478	0.7467	0.7498	0.7476	0.7432	0.0363	0.0336	0.0370	0.0395	0.0420	0.0385
0.7469	0.7386	0.7395	0.7462	0.7475	0.7516	0.0468	0.0413	0.0395	0.0385	0.0348	0.0280
0.7502	0.7504	0.7502	0.7506	0.7597	0.7540	0.0279	0.0268	0.0249	0.0270	0.0347	0.0296
0.7575	0.7581	0.7522	0.7585	0.7604	0.7532	0.0207	0.0343	0.0240	0.0306	0.0392	0.0301
0.7587	0.7531	0.7518	0.7488	0.7481	0.7516	0.0344	0.0327	0.0363	0.0366	0.0362	0.0424
AVERAGE	= 0.7491					AVERAGE	= 0.0355				
$X/R_t = 0.478 \quad R/R_t = 0.77$ POINT NUMBER = 5											
0.7471	0.7504	0.7461	0.7481	0.7477	0.7425	0.0307	0.0365	0.0337	0.0373	0.0389	0.0451
0.7393	0.7393	0.7373	0.7390	0.7466	0.7484	0.0423	0.0398	0.0429	0.0397	0.0339	0.0312
0.7488	0.7515	0.7493	0.7543	0.7519	0.7541	0.0290	0.0284	0.0221	0.0275	0.0232	0.0252
0.7546	0.7550	0.7626	0.7493	0.7561	0.7569	0.0268	0.0280	0.0323	0.0197	0.0215	0.0298
0.7550	0.7528	0.7559	0.7494	0.7463	0.7485	0.0340	0.0321	0.0363	0.0298	0.0355	0.0368
AVERAGE	= 0.7487					AVERAGE	= 0.0339				
$X/R_t = 0.482 \quad R/R_t = 0.77$ POINT NUMBER = 6											
0.7466	0.7487	0.7491	0.7495	0.7391	0.7416	0.0327	0.0350	0.0338	0.0386	0.0370	0.0398
0.7393	0.7348	0.7381	0.7420	0.7461	0.7519	0.0442	0.0405	0.0413	0.0358	0.0305	0.0295
0.7536	0.7538	0.7519	0.7506	0.7515	0.7541	0.0303	0.0233	0.0223	0.0222	0.0255	0.0227
0.7492	0.7540	0.7534	0.7557	0.7561	0.7559	0.0256	0.0188	0.0246	0.0280	0.0307	0.0299
0.7520	0.7526	0.7526	0.7464	0.7456	0.7467	0.0312	0.0309	0.0349	0.0362	0.0363	0.0332
AVERAGE	= 0.7472					AVERAGE	= 0.0332				
$X/R_t = 0.857 \quad R/R_t = 0.77$ POINT NUMBER = 11											
0.7907	0.7892	0.7908	0.7895	0.7870	0.7838	0.0314	0.0362	0.0348	0.0368	0.0367	0.0376
0.7847	0.7799	0.7793	0.7807	0.7797	0.7781	0.0408	0.0362	0.0386	0.0410	0.0411	0.0371
0.7787	0.7756	0.7764	0.7753	0.7690	0.7641	0.0382	0.0406	0.0410	0.0441	0.0336	0.0404
0.7263	0.7143	0.7092	0.8028	0.8316	0.8229	0.0433	0.0321	0.0398	0.0415	0.0245	0.0137
0.8219	0.8064	0.7995	0.8019	0.7962	0.7946	0.0207	0.0280	0.0372	0.0285	0.0308	0.0345
AVERAGE	= 0.7777					AVERAGE	= 0.0381				
$X/R_t = 0.886 \quad R/R_t = 0.77$ POINT NUMBER = 12											
0.7965	0.7988	0.7997	0.7919	0.7910	0.7873	0.0325	0.0342	0.0360	0.0334	0.0362	0.0340
0.7871	0.7855	0.7845	0.7863	0.7843	0.7792	0.0368	0.0390	0.0376	0.0391	0.0380	0.0377
0.7770	0.7788	0.7799	0.7723	0.7763	0.7782	0.0372	0.0402	0.0386	0.0349	0.0339	0.0349
0.7754	0.7454	0.6991	0.6950	0.7812	0.8186	0.0346	0.0366	0.0403	0.0388	0.0193	0.0290
0.8140	0.8067	0.8017	0.8012	0.8000	0.7952	0.0289	0.0284	0.0309	0.0310	0.0292	0.0328
AVERAGE	= 0.7764					AVERAGE	= 0.0380				
$X/R_t = 0.928 \quad R/R_t = 0.77$ POINT NUMBER = 13											
0.8023	0.7991	0.7973	0.8002	0.7963	0.7982	0.0280	0.0367	0.0284	0.0345	0.0346	0.0333
0.7904	0.7916	0.7847	0.7930	0.7864	0.7893	0.0331	0.0356	0.0421	0.0342	0.0324	0.0364
0.7831	0.7810	0.7861	0.7824	0.7844	0.7759	0.0345	0.0333	0.0345	0.0345	0.0336	0.0365
0.7762	0.7785	0.7462	0.7159	0.6936	0.7628	0.0317	0.0268	0.0386	0.0433	0.0558	0.0386
0.8100	0.8105	0.8106	0.7991	0.8071	0.8022	0.0367	0.0360	0.0315	0.0317	0.0299	0.0340
AVERAGE	= 0.7781					AVERAGE	= 0.0371				
$X/R_t = 0.967 \quad R/R_t = 0.77$ POINT NUMBER = 14											
0.8129	0.8058	0.8030	0.7991	0.8023	0.7979	0.0288	0.0345	0.0300	0.0286	0.0327	0.0288
0.7992	0.7964	0.7972	0.7908	0.7950	0.7933	0.0336	0.0326	0.0349	0.0286	0.0322	0.0331
0.7923	0.7891	0.7902	0.7914	0.7831	0.7847	0.0351	0.0343	0.0283	0.0303	0.0330	0.0328
0.7875	0.7811	0.7817	0.7812	0.7314	0.7078	0.0286	0.0294	0.0293	0.0345	0.0422	0.0589
0.7218	0.8051	0.8135	0.8082	0.8126	0.8070	0.0549	0.0335	0.0349	0.0328	0.0280	0.0361
AVERAGE	= 0.7833					AVERAGE	= 0.0374				
$X/R_t = 1.049 \quad R/R_t = 0.77$ POINT NUMBER = 15											
0.8178	0.8167	0.8115	0.8128	0.8123	0.8109	0.0292	0.0274	0.0271	0.0267	0.0246	0.0338
0.8088	0.8069	0.8092	0.8034	0.8008	0.8041	0.0252	0.0249	0.0284	0.0237	0.0274	0.0249
0.8011	0.7999	0.7974	0.7980	0.7964	0.8006	0.0268	0.0259	0.0256	0.0322	0.0229	0.0251
0.7977	0.7969	0.8014	0.8021	0.7966	0.7899	0.0267	0.0277	0.0233	0.0208	0.0231	0.0317
0.7634	0.7524	0.7557	0.7788	0.8188	0.8213	0.0375	0.0366	0.0274	0.0356	0.0353	0.0309
AVERAGE	= 0.7961					AVERAGE	= 0.0287				

TABLE V. - Continued.

(28) Concluded.

AXIAL VELOCITY												RADIAL VELOCITY																						
$X/R_t = 1.118 \quad R/R_t = 0.77$ POINT NUMBER = 16																																		
0.8224	0.8233	0.8236	0.8201	0.8164	0.8194	0.0322	0.0294	0.0289	0.0260	0.0288	0.0266	0.8143	0.8083	0.8124	0.8126	0.8129	0.8058	0.0239	0.0209	0.0192	0.0238	0.0194	0.0225											
0.8076	0.8060	0.8071	0.8047	0.8037	0.8056	0.0180	0.0196	0.0265	0.0242	0.0235	0.0251	0.8070	0.8047	0.8094	0.8076	0.8081	0.8075	0.0236	0.0239	0.0180	0.0218	0.0246	0.0236											
0.8094	0.8044	0.7766	0.7587	0.7510	0.7905	0.0188	0.0188	0.0324	0.0403	0.0338	0.0244	AVERAGE = 0.8019	AVERAGE = 0.0261																					
$X/R_t = 1.200 \quad R/R_t = 0.77$ POINT NUMBER = 17																																		
0.7665	0.7846	0.8182	0.8274	0.8232	0.8251	0.0292	0.0372	0.0316	0.0282	0.0290	0.0227	0.8276	0.8235	0.8143	0.8246	0.8183	0.8194	0.0200	0.0227	0.0169	0.0202	0.0134	0.0161											
0.8133	0.8168	0.8150	0.8180	0.8109	0.8193	0.0193	0.0149	0.0167	0.0145	0.0173	0.0133	0.8169	0.8111	0.8167	0.8165	0.8197	0.8149	0.0141	0.0197	0.0112	0.0162	0.0129	0.0127											
0.8173	0.8175	0.8165	0.8164	0.7967	0.7815	0.0138	0.0168	0.0138	0.0109	0.0212	0.0270	AVERAGE = 0.8117	AVERAGE = 0.0189																					
$X/R_t = 1.282 \quad R/R_t = 0.77$ POINT NUMBER = 18																																		
0.8078	0.7907	0.7776	0.7780	0.8070	0.8252	0.0115	0.0180	0.0229	0.0308	0.0230	0.0180	0.8235	0.8235	0.8258	0.8219	0.8212	0.8182	0.0216	0.0152	0.0124	0.0147	0.0100	0.0120											
0.8217	0.8229	0.8184	0.8211	0.8212	0.8206	0.0115	0.0105	0.0128	0.0120	0.0089	0.0122	0.8175	0.8136	0.8210	0.8209	0.8170	0.8231	0.0099	0.0121	0.0133	0.0063	0.0065	0.0078											
0.8217	0.8195	0.8188	0.8180	0.8126	0.8181	0.0118	0.0115	0.0079	0.0056	0.0085	0.0093	AVERAGE = 0.8135	AVERAGE = 0.0134																					
$X/R_t = 1.363 \quad R/R_t = 0.77$ POINT NUMBER = 19																																		
0.8227	0.8179	0.8137	0.8034	0.7773	0.7745	0.0011	-0.0001	0.0038	0.0082	0.0182	0.0201	0.8082	0.8105	0.8232	0.8295	0.8255	0.8241	0.0127	0.0170	0.0104	0.0172	0.0162	0.0138											
0.8226	0.8245	0.8259	0.8212	0.8200	0.8194	0.0164	0.0126	0.0118	0.0086	0.0082	0.0080	0.8156	0.8145	0.8206	0.8191	0.8158	0.8153	0.0093	0.0076	0.0061	0.0081	0.0049	0.0069											
0.8200	0.8201	0.8164	0.8190	0.8189	0.8216	0.0055	0.0021	0.0065	0.0035	0.0020	0.0027	AVERAGE = 0.8135	AVERAGE = 0.0080																					
$X/R_t = 1.445 \quad R/R_t = 0.77$ POINT NUMBER = 20																																		
0.8206	0.8194	0.8170	0.8217	0.8220	0.8100	-0.0015	-0.0028	-0.0024	-0.0045	-0.0024	-0.0003	0.7865	0.7750	0.7875	0.8095	0.8241	0.8230	0.0081	0.0164	0.0174	0.0223	0.0183	0.0145											
0.8264	0.8228	0.8288	0.8251	0.8253	0.8223	0.0122	0.0109	0.0103	0.0067	0.0074	0.0036	0.8229	0.8176	0.8182	0.8177	0.8177	0.8187	0.0016	0.0073	0.0008	-0.0018	0.0008	0.0025											
0.8170	0.8100	0.8123	0.8197	0.8158	0.8187	0.0004	-0.0000	0.0025	-0.0030	0.0003	-0.0015	AVERAGE = 0.8143	AVERAGE = 0.0037																					
$X/R_t = 1.526 \quad R/R_t = 0.77$ POINT NUMBER = 21																																		
0.8138	0.8178	0.8168	0.8147	0.8149	0.8124	0.0024	-0.0035	-0.0030	-0.0016	-0.0048	-0.0075	0.8164	0.8083	0.7934	0.7811	0.7789	0.7952	-0.0062	-0.0056	0.0075	0.0141	0.0190	0.0185											
0.8196	0.8135	0.8216	0.8167	0.8206	0.8185	0.0133	0.0056	0.0102	0.0068	0.0051	0.0064	0.8186	0.8196	0.8164	0.8184	0.8151	0.8182	0.0018	0.0062	0.0038	0.0008	0.0007	-0.0009											
0.8147	0.8143	0.8134	0.8141	0.8150	0.8128	-0.0027	-0.0026	-0.0011	0.0009	0.0003	0.0027	AVERAGE = 0.8109	AVERAGE = 0.0031																					
(29) Interblade velocity for powered operation: nominal $X/R_t = 0.92$; $A_T = 356.52 \text{ m/s}$ (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.																																		
AXIAL VELOCITY												RADIAL VELOCITY																						
$X/R_t = -0.065 \quad R/R_t = 0.92$ POINT NUMBER = 1																																		
0.7386	0.7374	0.7381	0.7371	0.7386	0.7376	0.0126	0.0082	0.0133	0.0107	0.0091	0.0093	0.7333	0.7357	0.7402	0.7392	0.7363	0.7371	0.0115	0.0107	0.0128	0.0107	0.0115	0.0083											
0.7370	0.7379	0.7381	0.7386	0.7365	0.7389	0.0117	0.0094	0.0108	0.0097	0.0082	0.0097	0.7357	0.7393	0.7403	0.7389	0.7379	0.7393	0.0088	0.0116	0.0085	0.0084	0.0090	0.0123											
0.7381	0.7391	0.7382	0.7405	0.7404	0.7381	0.0103	0.0092	0.0089	0.0115	0.0090	0.0105	AVERAGE = 0.7383	AVERAGE = 0.0105																					
$X/R_t = 0.151 \quad R/R_t = 0.92$ POINT NUMBER = 2																																		
0.7399	0.7378	0.7393	0.7381	0.7387	0.7383	0.0175	0.0164	0.0166	0.0186	0.0141	0.0155	0.7403	0.7417	0.7416	0.7398	0.7398	0.7422	0.0140	0.0148	0.0175	0.0156	0.0175	0.0159											
0.7392	0.7398	0.7392	0.7393	0.7409	0.7384	0.0167	0.0162	0.0159	0.0164	0.0181	0.0158	0.7390	0.7371	0.7384	0.7402	0.7379	0.7412	0.0197	0.0168	0.0200	0.0174	0.0161	0.0184											
0.7400	0.7404	0.7410	0.7414	0.7367	0.7395	0.0205	0.0166	0.0156	0.0163	0.0180	0.0188	AVERAGE = 0.7396	AVERAGE = 0.0169																					

TABLE V. - Continued.

(29) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.320 \quad R/R_t = 0.92$ POINT NUMBER = 3											
0.7451	0.7454	0.7459	0.7482	0.7466	0.7480	0.0199	0.0190	0.0221	0.0232	0.0219	0.0227
0.7457	0.7468	0.7463	0.7475	0.7453	0.7455	0.0232	0.0213	0.0203	0.0213	0.0225	0.0239
0.7456	0.7456	0.7449	0.7465	0.7451	0.7428	0.0209	0.0247	0.0230	0.0256	0.0221	0.0224
0.7459	0.7454	0.7406	0.7459	0.7442	0.7444	0.0226	0.0238	0.0221	0.0195	0.0239	0.0224
0.7465	0.7446	0.7432	0.7466	0.7442	0.7445	0.0226	0.0236	0.0223	0.0209	0.0210	0.0183
AVERAGE = 0.7455						AVERAGE = 0.0222					
$X/R_t = 0.478 \quad R/R_t = 0.92$ POINT NUMBER = 4											
0.7571	0.7568	0.7569	0.7563	0.7514	0.7521	0.0204	0.0261	0.0227	0.0268	0.0279	0.0298
0.7522	0.7512	0.7523	0.7531	0.7536	0.7556	0.0243	0.0238	0.0256	0.0257	0.0221	0.0233
0.7555	0.7535	0.7536	0.7563	0.7546	0.7571	0.0264	0.0238	0.0218	0.0235	0.0264	0.0204
0.7592	0.7570	0.7584	0.7591	0.7569	0.7592	0.0201	0.0199	0.0177	0.0214	0.0215	0.0222
0.7594	0.7542	0.7561	0.7618	0.7546	0.7585	0.0206	0.0199	0.0174	0.0223	0.0233	0.0228
AVERAGE = 0.7557						AVERAGE = 0.0232					
$X/R_t = 0.559 \quad R/R_t = 0.92$ POINT NUMBER = 5											
0.7693	0.7693	0.7683	0.7664	0.7645	0.7642	0.0200	0.0249	0.0250	0.0250	0.0254	0.0239
0.7636	0.7646	0.7620	0.7598	0.7595	0.7610	0.0247	0.0286	0.0257	0.0274	0.0292	0.0328
0.7581	0.7643	0.7608	0.7642	0.7654	0.7662	0.0291	0.0282	0.0262	0.0197	0.0214	0.0181
0.7693	0.7666	0.7679	0.7682	0.7668	0.7634	0.0215	0.0150	0.0208	0.0136	0.0215	0.0206
0.7650	0.7622	0.7609	0.7620	0.7630	0.7674	0.0204	0.0232	0.0203	0.0188	0.0210	0.0254
AVERAGE = 0.7639						AVERAGE = 0.0236					
$X/R_t = 0.600 \quad R/R_t = 0.92$ POINT NUMBER = 6											
0.7688	0.7689	0.7699	0.7688	0.7641	0.7654	0.0223	0.0186	0.0230	0.0244	0.0183	0.0212
0.7681	0.7687	0.7653	0.7644	0.7647	0.7616	0.0252	0.0277	0.0280	0.0247	0.0317	0.0296
0.7605	0.7627	0.7657	0.7661	0.7700	0.7745	0.0308	0.0255	0.0219	0.0169	0.0156	0.0109
0.7688	0.7705	0.7695	0.7625	0.7640	0.7663	0.0126	0.0151	0.0186	0.0202	0.0175	0.0139
0.7658	0.7790	0.7711	0.7763	0.7702	0.7704	0.0214	0.0168	0.0150	0.0218	0.0162	0.0214
AVERAGE = 0.7670						AVERAGE = 0.0216					
$X/R_t = 0.850 \quad R/R_t = 0.92$ POINT NUMBER = 7											
XXXXXX	XXXXXX	0.7951	0.7891	0.7899	0.7855	XXXXXX	XXXXXX	-0.0465	0.0067	0.0126	0.0173
0.7815	0.7781	0.7758	0.7742	0.7769	0.7742	0.0213	0.0219	0.0183	0.0230	0.0256	0.0288
0.7699	0.7713	0.7683	0.7664	0.7680	0.7692	0.0294	0.0333	0.0346	0.0351	0.0377	0.0374
0.7389	0.6884	0.7094	0.8312	0.8380	0.8401	0.0572	0.0640	0.0425	-0.0236	-0.0196	-0.0179
0.8294	0.8225	0.8150	XXXXXX	XXXXXX	XXXXXX	-0.0124	-0.0093	-0.0080	XXXXXX	XXXXXX	XXXXXX
AVERAGE = XXXXXX						AVERAGE = XXXXXX					
$X/R_t = 0.861 \quad R/R_t = 0.92$ POINT NUMBER = 8											
0.7993	0.7996	0.7972	0.7909	0.7837	0.7875	0.0049	-0.0050	0.0099	0.0124	0.0147	0.0187
0.7868	0.7812	0.7805	0.7775	0.7762	0.7770	0.0174	0.0198	0.0215	0.0239	0.0247	0.0303
0.7734	0.7721	0.7722	0.7711	0.7724	0.7712	0.0274	0.0330	0.0341	0.0361	0.0363	0.0344
0.7575	0.7294	0.6809	0.7553	0.8477	0.8419	0.0496	0.0553	0.0495	0.0399	-0.0204	-0.0161
0.8227	0.8186	0.8141	0.8053	0.8060	0.7938	-0.0056	-0.0080	-0.0015	-0.0009	-0.0021	0.0063
AVERAGE = 0.7783						AVERAGE = 0.0230					
$X/R_t = 0.910 \quad R/R_t = 0.92$ POINT NUMBER = 9											
0.7990	0.7985	0.7940	0.7978	0.7928	0.7906	0.0008	-0.0015	0.0044	0.0105	0.0102	0.0117
0.7895	0.7851	0.7797	0.7815	0.7829	0.7783	0.0156	0.0190	0.0162	0.0205	0.0236	0.0215
0.7781	0.7747	0.7785	0.7759	0.7749	0.7684	0.0256	0.0232	0.0327	0.0303	0.0310	0.0274
0.7798	0.7775	0.7439	0.7086	0.7164	0.8377	0.0287	0.0341	0.0630	0.0593	0.0509	-0.0200
0.8315	0.8285	0.8188	0.8188	0.8127	0.8076	-0.0109	-0.0068	-0.0073	-0.0068	-0.0009	-0.0024
AVERAGE = 0.7804						AVERAGE = 0.0205					
$X/R_t = 0.992 \quad R/R_t = 0.92$ POINT NUMBER = 10											
0.8157	0.8106	0.8072	0.8036	0.7998	0.8018	-0.0022	-0.0024	-0.0023	0.0003	0.0010	0.0069
0.7940	0.7967	0.7931	0.7898	0.7912	0.7887	0.0068	0.0106	0.0130	0.0132	0.0156	0.0186
0.7821	0.7826	0.7838	0.7875	0.7880	0.7846	0.0173	0.0199	0.0180	0.0236	0.0257	0.0301
0.7807	0.7861	0.7857	0.7874	0.7884	0.7412	0.0278	0.0339	0.0262	0.0317	0.0340	0.0557
0.7424	0.8211	0.8363	0.8326	0.8261	0.8218	0.0458	-0.0043	-0.0115	-0.0091	-0.0073	-0.0085
AVERAGE = 0.7902						AVERAGE = 0.0164					

TABLE V. - Continued.

(29) Concluded.

AXIAL VELOCITY										RADIAL VELOCITY					
$X/R_t = 1.118 \quad R/R_t = 0.92$ POINT NUMBER = 11										-0.0000	-0.0078	-0.0079	-0.0048	-0.0062	-0.0040
0.8365	0.8338	0.8282	0.8261	0.8215	0.8147										
0.8117	0.8126	0.8069	0.8021	0.8010	0.8017	-0.0042	-0.0004	-0.0003	0.0031	0.0020	0.0021				
0.7979	0.8003	0.7949	0.7924	0.7931	0.7930	0.0061	0.0069	0.0138	0.0125	0.0180	0.0175				
0.7929	0.7929	0.7911	0.7935	0.8013	0.7968	0.0197	0.0161	0.0251	0.0278	0.0303	0.0297				
0.8052	0.8056	0.8001	0.7823	0.7794	0.8331	0.0330	0.0315	0.0452	0.0445	0.0398	0.0015				
AVERAGE = 0.8023										AVERAGE = 0.0142					
$X/R_t = 1.282 \quad R/R_t = 0.92$ POINT NUMBER = 12										0.0262	0.0320	0.0333	0.0290	0.0032	-0.0027
0.8143	0.8045	0.7977	0.7936	0.8313	0.8450	0.0268	-0.0101	-0.0097	-0.0103	-0.0126	-0.0112				
0.8377	0.8319	0.8301	0.8234	0.8211	0.8173	-0.0068	-0.0108	-0.0072	-0.0086	-0.0069	-0.0042	-0.0013			
0.8197	0.8135	0.8130	0.8083	0.8074	0.8068	-0.0108	-0.0125	-0.0119	-0.0185	-0.0230	-0.0156				
0.8084	0.8035	0.8020	0.8008	0.7994	0.8028	0.0049	0.0042	0.0053	0.0073	0.0077	0.0074				
0.8044	0.8064	0.8041	0.8111	0.8121	0.8139	0.0138	0.0146	0.0189	0.0256	0.0190	0.0234				
AVERAGE = 0.8122										AVERAGE = 0.0077					
$X/R_t = 1.445 \quad R/R_t = 0.92$ POINT NUMBER = 13										0.0101	0.0116	0.0141	0.0168	0.0183	0.0162
0.8082	0.8080	0.8106	0.8099	0.8148	0.8170	0.0170	0.0295	0.0239	0.0019	-0.0075	-0.0112				
0.8100	0.7920	0.7999	0.8337	0.8399	0.8329	-0.0103	-0.0195	-0.0192	-0.0185	-0.0230	-0.0156				
0.8370	0.8337	0.8268	0.8253	0.8216	0.8174	-0.0170	-0.0175	-0.0112	-0.0114	-0.0125	-0.0049				
0.8162	0.8147	0.8079	0.8054	0.8043	0.8053	-0.0051	-0.0007	0.0002	0.0020	0.0039	0.0081				
AVERAGE = 0.8123										AVERAGE = 0.0006					
$X/R_t = 1.526 \quad R/R_t = 0.92$ POINT NUMBER = 14										0.0032	0.0035	0.0011	0.0090	0.0113	0.0144
0.8042	0.8071	0.8039	0.8066	0.8092	0.8108	0.0100	0.0119	0.0150	0.0239	0.0260	0.0108				
0.8124	0.8172	0.8163	0.7983	0.7999	0.8220	-0.0008	-0.0024	-0.0114	-0.0116	-0.0128	-0.0194				
0.8336	0.8324	0.8328	0.8288	0.8229	0.8265	-0.0221	-0.0180	-0.0203	-0.0149	-0.0180	-0.0133				
0.8228	0.8197	0.8163	0.8167	0.8119	0.8100	-0.0115	-0.0108	-0.0068	-0.0032	-0.0022	-0.0032				
AVERAGE = 0.8121										AVERAGE = -0.0002					
(30) Interblade velocity for powered operation: nominal $X/R_t = 1.02$; $A_T = 356.52 \text{ m/s}$ (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.															
AXIAL VELOCITY										RADIAL VELOCITY					
$X/R_t = -0.060 \quad R/R_t = 1.02$ POINT NUMBER = 1										0.0103	0.0127	0.0109	0.0127	0.0110	0.0109
0.7468	0.7441	0.7451	0.7469	0.7420	0.7445	0.0122	0.0127	0.0097	0.0116	0.0134	0.0115				
0.7383	0.7459	0.7447	0.7446	0.7458	0.7451	0.0110	0.0100	0.0150	0.0239	0.0260	0.0108				
0.7461	0.7426	0.7421	0.7435	0.7424	0.7460	0.0092	0.0119	0.0108	0.0127	0.0141	0.0123				
0.7440	0.7443	0.7429	0.7441	0.7428	0.7454	0.0112	0.0121	0.0120	0.0091	0.0141	0.0123				
AVERAGE = 0.7440										AVERAGE = 0.0113					
$X/R_t = 0.151 \quad R/R_t = 1.02$ POINT NUMBER = 2										0.0172	0.0191	0.0156	0.0221	0.0178	0.0169
0.7445	0.7457	0.7463	0.7408	0.7434	0.7473	0.0185	0.0194	0.0166	0.0158	0.0178	0.0192				
0.7444	0.7448	0.7444	0.7453	0.7464	0.7452	0.0173	0.0163	0.0158	0.0180	0.0188	0.0154				
0.7467	0.7471	0.7481	0.7446	0.7445	0.7414	0.0197	0.0162	0.0189	0.0168	0.0156	0.0179				
0.7439	0.7426	0.7406	0.7413	0.7449	0.7441	0.0197	0.0170	0.0191	0.0166	0.0179	0.0158				
AVERAGE = 0.7446										AVERAGE = 0.0175					
$X/R_t = 0.320 \quad R/R_t = 1.02$ POINT NUMBER = 3										0.0203	0.0158	0.0190	0.0174	0.0208	0.0205
0.7504	0.7499	0.7514	0.7494	0.7551	0.7528	0.0196	0.0186	0.0184	0.0188	0.0229	0.0212				
0.7513	0.7525	0.7505	0.7505	0.7491	0.7509	0.0223	0.0198	0.0209	0.0209	0.0182	0.0206				
0.7501	0.7507	0.7503	0.7502	0.7471	0.7496	0.0206	0.0200	0.0206	0.0217	0.0212	0.0214				
0.7503	0.7508	0.7516	0.7528	0.7529	0.7510	0.0202	0.0185	0.0227	0.0218	0.0204	0.0204				
AVERAGE = 0.7511										AVERAGE = 0.0206					
$X/R_t = 0.478 \quad R/R_t = 1.02$ POINT NUMBER = 4										0.0172	0.0177	0.0212	0.0207	0.0162	0.0233
0.7599	0.7611	0.7607	0.7625	0.7587	0.7609	0.0227	0.0238	0.0199	0.0199	0.0244	0.0239				
0.7562	0.7585	0.7564	0.7552	0.7555	0.7558	0.0209	0.0235	0.0193	0.0250	0.0198	0.0240				
0.7571	0.7603	0.7588	0.7581	0.7602	0.7586	0.0191	0.0201	0.0186	0.0201	0.0183	0.0225				
0.7624	0.7586	0.7589	0.7601	0.7592	0.7611	0.0210	0.0154	0.0188	0.0167	0.0177	0.0180				
0.7583	0.7617	0.7606	0.7552	0.7631	0.7589	AVERAGE = 0.0203									

TABLE V. - Continued.

(30) Continued.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.559 R/R_t = 1.02$ POINT NUMBER = 5											
0.7579	0.7640	0.7656	0.7627	0.7646	0.7666	0.0183	0.0170	0.0189	0.0188	0.0144	0.0174
0.7665	0.7633	0.7634	0.7656	0.7659	0.7633	0.0211	0.0215	0.0227	0.0196	0.0221	0.0233
0.7632	0.7659	0.7657	0.7649	0.7609	0.7651	0.0218	0.0227	0.0215	0.0239	0.0174	0.0154
0.7605	0.7631	0.7658	0.7673	0.7652	0.7636	0.0195	0.0180	0.0156	0.0168	0.0155	0.0155
0.7616	0.7674	0.7627	0.7659	0.7620	0.7653	0.0177	0.0187	0.0196	0.0167	0.0168	0.0185
AVERAGE	= 0.7646					AVERAGE	= 0.0196				
$X/R_t = 0.641 R/R_t = 1.02$ POINT NUMBER = 6											
0.7687	0.7746	0.7734	0.7747	0.7748	0.7756	0.0114	0.0131	0.0106	0.0116	0.0144	0.0148
0.7732	0.7703	0.7725	0.7728	0.7696	0.7705	0.0109	0.0168	0.0192	0.0179	0.0181	0.0226
0.7661	0.7642	0.7584	0.7647	0.7611	0.7631	0.0195	0.0197	0.0247	0.0206	0.0215	0.0184
0.7658	0.7654	0.7642	0.7586	0.7629	0.7658	0.0162	0.0163	0.0196	0.0175	0.0187	0.0168
0.7767	0.7677	0.7718	0.7717	0.7759	0.7705	0.0150	0.0140	0.0105	0.0108	0.0087	0.0119
AVERAGE	= 0.7679					AVERAGE	= 0.0165				
$X/R_t = 0.682 R/R_t = 1.02$ POINT NUMBER = 7											
0.7783	0.7764	0.7705	0.7776	0.7817	0.7782	0.0040	0.0080	0.0051	0.0132	0.0079	0.0087
0.7728	0.7740	0.7773	0.7695	0.7702	0.7629	0.0127	0.0141	0.0150	0.0180	0.0173	0.0211
0.7599	0.7564	0.7527	0.7563	0.7605	0.7630	0.0264	0.0282	0.0269	0.0215	0.0182	0.0203
0.7581	0.7637	0.7677	0.7744	0.7789	0.7764	0.0175	0.0143	0.0133	0.0085	0.0065	0.0086
0.7749	0.7757	0.7764	0.7751	0.7792	0.7763	0.0085	0.0075	0.0056	0.0097	0.0096	0.0072
AVERAGE	= 0.7688					AVERAGE	= 0.0144				
$X/R_t = 0.716 R/R_t = 1.02$ POINT NUMBER = 8											
0.7755	0.7739	0.7745	0.7684	0.7688	0.7719	0.0118	0.0156	0.0121	0.0113	0.0139	0.0152
0.7627	0.7713	0.7680	0.7649	0.7658	0.7669	0.0080	0.0193	0.0181	0.0198	0.0199	0.0211
0.7647	0.7582	0.7410	0.7421	0.7462	0.7557	0.0206	0.0204	0.0050	0.0314	0.0275	0.0180
0.7625	0.7705	0.7714	0.7747	0.7711	0.7682	0.0108	0.0068	0.0053	0.0051	0.0085	0.0097
0.7734	0.7734	0.7696	0.7763	0.7726	0.7789	0.0112	0.0138	0.0080	0.0087	0.0126	0.0124
AVERAGE	= 0.7627					AVERAGE	= 0.0155				
$X/R_t = 0.860 R/R_t = 1.02$ POINT NUMBER = 9											
0.7787	0.7770	0.7771	0.7783	0.7674	0.7627	-0.0029	-0.0003	-0.0008	0.0021	0.0067	0.0105
0.7637	0.7720	0.7721	0.7707	0.7713	0.7704	0.0105	0.0047	0.0093	0.0090	0.0160	0.0135
0.7703	0.7705	0.7709	0.7696	0.7610	0.7534	0.0137	0.0171	0.0180	0.0199	0.0187	0.0231
0.7510	0.7416	0.7541	0.8008	0.8040	0.8041	0.0289	0.0468	0.0698	-0.0358	-0.0391	-0.0355
0.8084	0.8016	0.7912	0.7812	0.7858	0.7826	-0.0296	-0.0212	-0.0154	-0.0111	-0.0092	-0.0064
AVERAGE	= 0.7676					AVERAGE	= 0.0091				
$X/R_t = 0.869 R/R_t = 1.02$ POINT NUMBER = 10											
0.7875	0.7813	0.7790	0.7729	0.7728	0.7741	-0.0069	-0.0032	-0.0014	0.0092	0.0105	0.0086
0.7834	0.7755	0.7752	0.7710	0.7701	0.7712	0.0061	0.0118	0.0114	0.0147	0.0165	0.0227
0.7658	0.7635	0.7628	0.7611	0.7622	0.7569	0.0245	0.0247	0.0282	0.0327	0.0381	0.0393
0.7577	0.7580	0.7494	0.7364	0.8275	0.8289	0.0410	0.0511	0.0813	0.0203	-0.0869	-0.0741
0.8060	0.7997	0.7999	0.7920	0.7930	0.7897	-0.0550	-0.0388	-0.0356	-0.0220	-0.0140	-0.0109
AVERAGE	= 0.7672					AVERAGE	= 0.0086				
$X/R_t = 0.886 R/R_t = 1.02$ POINT NUMBER = 11											
0.7892	0.7840	0.7774	0.7775	0.7809	0.7881	-0.0111	-0.0061	0.0021	0.0057	0.0056	0.0041
0.7816	0.7806	0.7785	0.7780	0.7722	0.7714	0.0102	0.0131	0.0166	0.0114	0.0195	0.0184
0.7707	0.7728	0.7681	0.7681	0.7674	0.7653	0.0218	0.0269	0.0268	0.0351	0.0336	0.0386
0.7671	0.7696	0.7513	0.7299	0.8321	0.8203	0.0457	0.0545	0.0829	0.0695	-0.0822	-0.0761
0.8126	0.7946	0.7999	0.7978	0.7945	0.7876	-0.0669	-0.0441	-0.0409	-0.0280	-0.0200	-0.0190
AVERAGE	= 0.7677					AVERAGE	= 0.0062				
$X/R_t = 0.886 R/R_t = 1.02$ POINT NUMBER = 12 (4000 SAMPLES)											
0.7888	0.7871	0.7783	0.7776	0.7805	0.7852	-0.0086	-0.0054	0.0032	0.0064	0.0036	0.0021
0.7829	0.7802	0.7800	0.7760	0.7754	0.7722	0.0093	0.0122	0.0150	0.0152	0.0174	0.0207
0.7722	0.7703	0.7699	0.7694	0.7690	0.7666	0.0249	0.0264	0.0291	0.0323	0.0359	0.0404
0.7693	0.7711	0.7540	0.7363	0.8223	0.8229	0.0478	0.0567	0.0801	0.0651	-0.0763	-0.0830
0.8094	0.8048	0.8005	0.7960	0.7924	0.7929	-0.0674	-0.0515	-0.0374	-0.0282	-0.0206	-0.0152
AVERAGE	= 0.7689					AVERAGE	= 0.0042				

TABLE V. - Continued.

(30) Continued.

AXIAL VELOCITY							RADIAL VELOCITY						
$X/R_t = 0.926 R/R_t = 1.02$ POINT NUMBER = 13													
0.7882	0.7869	0.7887	0.7884	0.7844	0.7835	-0.0129	-0.0106	-0.0067	-0.0027	-0.0017	0.0046		
0.7854	0.7817	0.7811	0.7817	0.7797	0.7715	0.0044	0.0116	0.0132	0.0147	0.0142	0.0193		
0.7768	0.7758	0.7713	0.7735	0.7733	0.7774	0.0255	0.0245	0.0219	0.0303	0.0300	0.0386		
0.7689	0.7752	0.7738	0.7767	0.7341	0.7865	0.0351	0.0415	0.0514	0.0873	0.0729	-0.0257		
0.8352	0.8197	0.8038	0.7972	0.7959	0.7914	-0.0982	-0.0858	-0.0614	-0.0385	-0.0326	-0.0292		
AVERAGE = 0.7724							AVERAGE = 0.0053						
$X/R_t = 0.967 R/R_t = 1.02$ POINT NUMBER = 14													
0.7900	0.7917	0.7933	0.7873	0.7883	0.7871	-0.0249	-0.0218	-0.0142	-0.0125	-0.0091	-0.0030		
0.7874	0.7846	0.7862	0.7846	0.7788	0.7814	0.0009	0.0044	0.0109	0.0121	0.0119	0.0201		
0.7824	0.7807	0.7774	0.7789	0.7789	0.7809	0.0174	0.0197	0.0257	0.0250	0.0286	0.0355		
0.7821	0.7810	0.7760	0.7740	0.7677	0.7574	0.0346	0.0437	0.0433	0.0552	0.0816	0.0935		
0.7738	0.8298	0.8252	0.8175	0.7915	0.7932	0.0327	-0.0780	-0.0995	-0.0816	-0.0449	-0.0357		
AVERAGE = 0.7728							AVERAGE = 0.0042						
$X/R_t = 1.037 R/R_t = 1.02$ POINT NUMBER = 15													
0.7985	0.7888	0.7920	0.7968	0.7915	0.7908	-0.0663	-0.0404	-0.0335	-0.0250	-0.0177	-0.0144		
0.7908	0.7929	0.7895	0.7928	0.7849	0.7877	-0.0066	-0.0036	0.0003	0.0044	0.0050	0.0129		
0.7876	0.7851	0.7838	0.7846	0.7815	0.7851	0.0132	0.0138	0.0185	0.0181	0.0222	0.0234		
0.7868	0.7871	0.7864	0.7876	0.7827	0.7916	0.0325	0.0318	0.0408	0.0469	0.0438	0.0698		
0.7814	0.7787	0.7775	0.8139	0.8374	0.8194	0.0775	0.0958	0.0835	-0.0471	-0.0973	-0.0960		
AVERAGE = 0.7747							AVERAGE = 0.0073						
$X/R_t = 1.118 R/R_t = 1.02$ POINT NUMBER = 16													
0.8329	0.8295	0.8183	0.8033	0.7958	0.7960	-0.0928	-0.1058	-0.1017	-0.0821	-0.0551	-0.0340		
0.7968	0.7929	0.7952	0.7950	0.7911	0.7964	-0.0284	-0.0185	-0.0137	-0.0079	-0.0042	0.0020		
0.7894	0.7920	0.7917	0.7916	0.7874	0.7887	0.0033	0.0056	0.0105	0.0123	0.0144	0.0206		
0.7870	0.7909	0.7924	0.7919	0.7951	0.7935	0.0182	0.0251	0.0292	0.0303	0.0395	0.0476		
0.7927	0.7932	0.7927	0.7940	0.7935	0.8058	0.0564	0.0601	0.0707	0.0884	0.0829	0.0597		
AVERAGE = 0.7832							AVERAGE = 0.0063						
$X/R_t = 1.200 R/R_t = 1.02$ POINT NUMBER = 17													
0.7842	0.7783	XXXXXX	XXXXXX	0.8063	0.8073	0.0834	0.0625	XXXXXX	XXXXXX	-0.0861	-0.0928		
0.8045	0.7989	0.7981	0.7948	0.7951	0.7970	-0.0862	-0.0537	-0.0381	-0.0276	-0.0213	-0.0186		
0.7941	0.7938	0.7924	0.7917	0.7911	0.7931	-0.0103	-0.0057	-0.0019	0.0003	0.0021	0.0057		
0.7929	0.7937	0.7914	0.7925	0.7934	0.7901	0.0134	0.0152	0.0175	0.0170	0.0234	0.0269		
0.7923	0.7947	0.7881	0.7992	0.7988	0.7969	0.0310	0.0383	0.0387	0.0559	0.0670	0.0814		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.282 R/R_t = 1.02$ POINT NUMBER = 18													
0.8030	0.7929	0.7952	0.7949	0.8269	XXXXXX	0.0598	0.0610	0.0782	0.0722	0.0340	XXXXXX		
XXXXXX	XXXXXX	0.7872	0.7927	0.7967	0.7988	XXXXXX	XXXXXX	0.0798	-0.0778	-0.0586	-0.0376		
0.7999	0.7987	0.7994	0.7963	0.7954	0.7996	-0.0335	-0.0280	-0.0198	-0.0137	-0.0115	-0.0068		
0.7924	0.7982	0.7979	0.7964	0.7920	0.7946	0.0007	-0.0009	0.0031	0.0069	0.0148	0.0167		
0.7926	0.7972	0.7940	0.7946	0.7972	0.7935	0.0160	0.0219	0.0312	0.0326	0.0392	0.0453		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.363 R/R_t = 1.02$ POINT NUMBER = 19													
0.7982	0.7968	0.7989	0.7987	0.8039	0.7937	0.0357	0.0371	0.0487	0.0551	0.0798	0.0696		
0.8074	0.7919	XXXXXX	XXXXXX	0.7996	0.7996	0.0512	0.0395	XXXXXX	XXXXXX	XXXXXX	-0.0804		
0.7929	0.7937	0.8011	0.8004	0.7953	0.7941	-0.0824	-0.0687	-0.0466	-0.0330	-0.0254	-0.0192		
0.7969	0.7993	0.7949	0.8000	0.7952	0.7952	-0.0160	-0.0109	-0.0083	-0.0008	0.0003	0.0047		
0.7988	0.7972	0.7954	0.7952	0.7957	0.7947	0.0094	0.0131	0.0173	0.0214	0.0221	0.0268		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						
$X/R_t = 1.445 R/R_t = 1.02$ POINT NUMBER = 20													
0.7937	0.7939	0.7964	0.7955	0.7967	0.7994	0.0186	0.0231	0.0233	0.0347	0.0428	0.0510		
0.8014	0.8058	0.8126	0.8093	XXXXXX	XXXXXX	0.0626	0.0722	0.0437	0.0132	XXXXXX	XXXXXX		
XXXXXX	0.8100	0.8023	0.7957	0.7928	0.7988	XXXXXX	-0.0979	-0.0859	-0.0777	-0.0672	-0.0469		
0.7989	0.7994	0.7994	0.7986	0.7995	0.7982	-0.0315	-0.0277	-0.0193	-0.0174	-0.0108	-0.0058		
0.7964	0.7948	0.7971	0.7958	0.7976	0.7973	-0.0053	-0.0022	0.0058	0.0051	0.0124	0.0144		
AVERAGE = XXXXXX							AVERAGE = XXXXXX						

TABLE V. - Continued.

(30) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 1.510$ $R/R_t = 1.02$ POINT NUMBER = 21											
0.7923	0.7962	0.7924	0.7905	0.7938	0.7949	0.0064	0.0128	0.0099	0.0162	0.0257	0.0296
0.7945	0.8001	0.8021	0.7935	0.8032	0.8200	0.0339	0.0466	0.0580	0.0643	0.0560	0.0350
XXXXXX	XXXXXX	XXXXXX	XXXXXX	0.8109	0.7982	XXXXXX	XXXXXX	XXXXXX	XXXXXX	0.0910	0.0754
0.7954	0.7993	0.7975	0.8027	0.8005	0.7984	-0.0699	-0.0476	-0.0404	-0.0280	-0.0189	-0.0212
0.7996	0.7966	0.7970	0.7951	0.7952	0.7894	-0.0125	-0.0080	-0.0053	-0.0026	0.0012	0.0027
AVERAGE	XXXXXX					AVERAGE	XXXXXX				
(31) Interblade velocity for powered operation: nominal $X/R_t = 0.92$; $A_T = 344.58 \text{ m/s}$ (1130.5 ft/s); $\beta_{3/4} = 60.9^\circ$.											
AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.151$ $R/R_t = 0.92$ POINT NUMBER = 2											
0.7520	0.7590	0.7584	0.7567	0.7674	0.7646	0.0247	0.0231	0.0202	0.0249	0.0221	0.0226
0.7514	0.7452	0.7520	0.7617	0.7619	0.7582	0.0364	0.0340	0.0244	0.0200	0.0193	0.0228
0.7557	0.7554	0.7599	0.7628	0.7565	0.7631	0.0220	0.0215	0.0258	0.0234	0.0235	0.0211
0.7579	0.7580	0.7678	0.7624	0.7625	0.7628	0.0250	0.0216	0.0189	0.0250	0.0232	0.0284
0.7668	0.7588	0.7680	0.7674	0.7665	0.7488	0.0243	0.0230	0.0167	0.0214	0.0200	0.0364
AVERAGE	0.7596					AVERAGE	0.0238				
$X/R_t = 0.320$ $R/R_t = 0.92$ POINT NUMBER = 3											
0.7637	0.7636	0.7716	0.7656	0.7734	0.7517	0.0248	0.0241	0.0236	0.0284	0.0257	0.0357
0.7628	0.7689	0.7684	0.7648	0.7639	0.7532	0.0261	0.0255	0.0249	0.0270	0.0237	0.0304
0.7645	0.7667	0.7677	0.7595	0.7654	0.7734	0.0341	0.0303	0.0247	0.0286	0.0278	0.0271
0.7646	0.7651	0.7630	0.7688	0.7701	0.7506	0.0249	0.0283	0.0246	0.0218	0.0233	0.0365
0.7621	0.7621	0.7665	0.7629	0.7667	0.7501	0.0311	0.0276	0.0253	0.0244	0.0249	0.0320
AVERAGE	0.7645					AVERAGE	0.0281				
$X/R_t = 0.478$ $R/R_t = 0.92$ POINT NUMBER = 4											
0.7840	0.7757	0.7656	0.7723	0.7600	0.7680	0.0291	0.0297	0.0361	0.0326	0.0335	0.0327
0.7759	0.7769	0.7889	0.7774	0.7762	0.7697	0.0258	0.0241	0.0247	0.0268	0.0292	0.0351
0.7767	0.7751	0.7736	0.7781	0.7768	0.7607	0.0295	0.0273	0.0268	0.0326	0.0343	0.0363
0.7769	0.7690	0.7830	0.7772	0.7615	0.7756	0.0234	0.0296	0.0186	0.0083	0.0329	0.0273
0.7778	0.7814	0.7811	0.7797	0.7734	0.7788	0.0263	0.0282	0.0205	0.0227	0.0238	0.0268
AVERAGE	0.7747					AVERAGE	0.0283				
$X/R_t = 0.559$ $R/R_t = 0.92$ POINT NUMBER = 5											
0.7768	0.7835	0.7813	0.7720	0.7720	0.7807	0.0275	0.0333	0.0271	0.0317	0.0315	0.0330
0.7697	0.7751	0.7755	0.7779	0.7756	0.7716	0.0424	0.0318	0.0323	0.0285	0.0272	0.0276
0.7792	0.7628	0.7642	0.7767	0.7638	0.7635	0.0261	0.0321	0.0263	0.0226	0.0325	0.0334
0.7751	0.7797	0.7696	0.7732	0.7694	0.7836	0.0229	0.0188	0.0318	0.0257	0.0250	0.0126
0.7771	0.7818	0.7812	0.7831	0.7765	0.7843	0.0187	0.0188	0.0262	0.0213	0.0349	0.0205
AVERAGE	0.7753					AVERAGE	0.0276				
$X/R_t = 0.600$ $R/R_t = 0.92$ POINT NUMBER = 6											
0.7834	0.7909	0.7800	0.7857	0.7697	0.7839	0.0197	0.0193	0.0215	0.0250	0.0346	0.0215
0.7725	0.7839	0.7843	0.7791	0.7736	0.7845	0.0297	0.0257	0.0252	0.0306	0.0373	0.0318
0.7801	0.7705	0.7717	0.7811	0.7838	0.7758	0.0310	0.0349	0.0295	0.0199	0.0164	0.0203
0.7893	0.7901	0.7859	0.7805	0.7819	0.7851	0.0211	0.0200	0.0156	0.0137	0.0255	0.0211
0.7912	0.7931	0.7841	0.7860	0.7929	0.7812	0.0207	0.0136	0.0248	0.0157	0.0176	0.0196
AVERAGE	0.7823					AVERAGE	0.0249				
$X/R_t = 0.861$ $R/R_t = 0.92$ POINT NUMBER = 7											
0.7915	0.8111	0.8126	0.8030	0.8032	0.8022	0.0423	0.0216	0.0115	0.0200	0.0187	0.0156
0.7950	0.7976	0.7904	0.7772	0.7870	0.7920	0.0241	0.0316	0.0343	0.0446	0.0333	0.0352
0.7892	0.7911	0.7979	0.7899	0.7935	0.7672	0.0419	0.0401	0.0412	0.0448	0.0443	0.0348
0.7218	0.6963	0.7971	0.8292	0.8260	0.8275	0.0597	0.0766	0.0242	0.0136	0.0090	0.0077
0.8240	0.8228	0.8187	0.7949	0.7791	0.7595	0.0041	0.0035	0.0097	0.0239	0.0338	0.0280
AVERAGE	0.7895					AVERAGE	0.0338				
$X/R_t = 0.886$ $R/R_t = 0.92$ POINT NUMBER = 8											
0.7950	0.8074	0.7995	0.8026	0.8020	0.7978	0.0245	0.0201	0.0241	0.0213	0.0157	0.0261
0.7881	0.7940	0.7873	0.7981	0.7887	0.7855	0.0336	0.0361	0.0420	0.0343	0.0368	0.0370
0.7866	0.7925	0.7945	0.7886	0.7751	0.7685	0.0431	0.0326	0.0386	0.0395	0.0326	0.0485
0.7432	0.7263	0.7385	0.8356	0.8343	0.8042	0.0490	0.0716	0.0571	0.0035	0.0077	0.0198
0.8232	0.8111	0.8028	0.7985	0.8216	0.7949	0.0083	0.0120	0.0192	0.0138	0.0087	0.0268
AVERAGE	0.7872					AVERAGE	0.0344				

TABLE V. - Continued.

(31) Continued.

AXIAL VELOCITY								RADIAL VELOCITY						
$X/R_t = 0.967$ $R/R_t = 0.92$ POINT NUMBER = 9														
0.8040	0.8211	0.8152	0.8252	0.8165	0.7981	0.0224	0.0073	0.0145	0.0075	0.0157	0.0277			
0.8038	0.8064	0.7993	0.7999	0.8077	0.7984	0.0226	0.0213	0.0254	0.0308	0.0236	0.0309			
0.7927	0.7892	0.7977	0.7938	0.8091	0.7855	0.0392	0.0371	0.0308	0.0215	0.0301	0.0409			
0.7889	0.7913	0.7835	0.7663	0.7538	0.7781	0.0447	0.0356	0.0494	0.0479	0.0602	0.0418			
0.8280	0.8371	0.8289	0.8199	0.8267	0.8282	0.0240	0.0120	0.0167	0.0120	0.0126	0.0020			
AVERAGE = 0.7997								AVERAGE = 0.0286						
$X/R_t = 1.118$ $R/R_t = 0.92$ POINT NUMBER = 10														
0.8531	0.8269	0.8394	0.8347	0.8265	0.8288	0.0019	0.0126	0.0039	0.0011	0.0026	0.0048			
0.8318	0.8342	0.8237	0.8184	0.8105	0.8142	0.0076	0.0080	0.0050	0.0211	0.0196	0.0142			
0.8148	0.8031	0.8118	0.8158	0.8248	0.8212	0.0153	0.0276	0.0199	0.0169	0.0180	0.0166			
0.8026	0.8184	0.8201	0.7912	0.8064	0.7905	0.0242	0.0293	0.0388	0.0355	0.0449	0.0326			
0.8177	0.7942	0.7971	0.8121	0.8261	0.8391	0.0366	0.0510	0.0499	0.0417	0.0149	0.0212			
AVERAGE = 0.8165								AVERAGE = 0.0195						
$X/R_t = 1.282$ $R/R_t = 0.92$ POINT NUMBER = 11														
0.8195	0.8195	0.7895	0.8410	0.8418	0.8292	0.0411	0.0414	0.0542	0.0211	0.0080	0.0218			
0.8491	0.8492	0.8406	0.8123	0.8148	0.8360	0.0036	0.0037	0.0023	0.0168	0.0187	0.0009			
0.8310	0.8156	0.8295	0.8161	0.8242	0.8141	0.0042	0.0112	0.0119	0.0167	0.0078	0.0131			
0.8160	0.8156	0.8258	0.8217	0.8349	0.8111	0.0182	0.0219	0.0170	0.0193	0.0215	0.0326			
0.8141	0.8280	0.8313	0.8115	0.8318	0.8222	0.0328	0.0285	0.0274	0.0451	0.0349	0.0390			
AVERAGE = 0.8224								AVERAGE = 0.0224						
$X/R_t = 1.527$ $R/R_t = 0.92$ POINT NUMBER = 12														
0.8103	0.8157	0.8107	0.8056	0.8083	0.8211	0.0191	0.0184	0.0311	0.0340	0.0351	0.0271			
0.8114	0.8228	0.8201	0.7859	0.8065	0.8182	0.0410	0.0307	0.0358	0.0609	0.0316	0.0427			
0.8103	0.8536	0.8589	0.8456	0.8466	0.8426	0.0253	0.0040	-0.0007	0.0045	-0.0043	-0.0123			
0.8418	0.8172	0.8185	0.8182	0.8089	0.8205	-0.0080	0.0033	0.0044	0.0026	0.0077	0.0080			
0.8214	0.8281	0.8194	0.8178	0.8166	0.8075	0.0078	0.0047	0.0145	0.0183	0.0115	0.0294			
AVERAGE = 0.8195								AVERAGE = 0.0204						
(32) Interblade velocity for powered operation: nominal $X/R_t = 1.06$; $A_T = 356.52$ m/s (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.														
AXIAL VELOCITY								RADIAL VELOCITY						
$X/R_t = 0.478$ $R/R_t = 1.06$ POINT NUMBER = 1														
0.7631	0.7608	0.7652	0.7598	0.7602	0.7612	0.0174	0.0216	0.0210	0.0189	0.0190	0.0211			
0.7594	0.7605	0.7628	0.7617	0.7586	0.7580	0.0216	0.0213	0.0211	0.0222	0.0235	0.0290			
0.7569	0.7563	0.7591	0.7616	0.7591	0.7593	0.0253	0.0223	0.0194	0.0222	0.0222	0.0187			
0.7605	0.7640	0.7605	0.7615	0.7615	0.7622	0.0213	0.0235	0.0200	0.0231	0.0204	0.0207			
0.7616	0.7638	0.7602	0.7605	0.7614	0.7622	0.0218	0.0239	0.0192	0.0219	0.0207	0.0186			
AVERAGE = 0.7608								AVERAGE = 0.0215						
$X/R_t = 0.641$ $R/R_t = 1.06$ POINT NUMBER = 2														
0.7720	0.7717	0.7677	0.7689	0.7764	0.7717	0.0139	0.0177	0.0141	0.0149	0.0189	0.0174			
0.7714	0.7734	0.7734	0.7765	0.7764	0.7750	0.0202	0.0164	0.0185	0.0168	0.0175	0.0218			
0.7734	0.7727	0.7668	0.7672	0.7669	0.7660	0.0204	0.0209	0.0180	0.0197	0.0221	0.0224			
0.7654	0.7655	0.7680	0.7683	0.7703	0.7682	0.0227	0.0203	0.0210	0.0180	0.0156	0.0176			
0.7662	0.7657	0.7686	0.7750	0.7738	0.7713	0.0195	0.0186	0.0197	0.0147	0.0138	0.0192			
AVERAGE = 0.7700								AVERAGE = 0.0185						
$X/R_t = 0.710$ $R/R_t = 1.06$ POINT NUMBER = 3														
0.7824	0.7821	0.7810	0.7798	0.7817	0.7825	0.0047	0.0098	0.0121	0.0163	0.0116	0.0119			
0.7788	0.7794	0.7825	0.7745	0.7722	0.7693	0.0107	0.0146	0.0166	0.0169	0.0224	0.0195			
0.7634	0.7659	0.7638	0.7593	0.7599	0.7583	0.0213	0.0215	0.0288	0.0256	0.0250	0.0215			
0.7559	0.7627	0.7633	0.7764	0.7732	0.7778	0.0251	0.0194	0.0184	0.0121	0.0115	0.0067			
0.7763	0.7777	0.7755	0.7752	0.7785	0.7771	0.0088	0.0071	0.0108	0.0111	0.0073	0.0102			
AVERAGE = 0.7708								AVERAGE = 0.0163						
$X/R_t = 0.860$ $R/R_t = 1.06$ POINT NUMBER = 4														
0.7788	0.7764	0.7752	0.7746	0.7770	0.7715	-0.0068	-0.0001	0.0018	0.0046	0.0049	0.0064			
0.7692	0.7595	0.7599	0.7627	0.7717	0.7705	0.0094	0.0180	0.0158	0.0149	0.0140	0.0174			
0.7664	0.7655	0.7635	0.7641	0.7598	0.7533	0.0162	0.0181	0.0244	0.0286	0.0262	0.0280			
0.7446	0.7092	0.6944	0.7277	0.7600	0.7746	0.0281	0.0623	0.0865	-0.0268	-0.0615	-0.0406			
0.7926	0.7915	0.7959	0.7371	0.7862	0.7848	-0.0304	-0.0303	-0.0233	-0.0163	-0.0108	-0.0101			
AVERAGE = 0.7574								AVERAGE = 0.0132						

TABLE V. - Continued.

(32) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 0.866 \quad R/R_t = 1.06$ POINT NUMBER = 5											
0.7809	0.7793	0.7789	0.7796	0.7687	0.7679	-0.0108	-0.0074	-0.0056	0.0032	0.0079	0.0120
0.7702	0.7767	0.7763	0.7717	0.7730	0.7711	0.0094	0.0074	0.0097	0.0139	0.0146	0.0203
0.7691	0.7684	0.7657	0.7620	0.7630	0.7595	0.0221	0.0224	0.0259	0.0307	0.0311	0.0336
0.7586	0.7550	0.7264	0.7205	0.7302	0.7654	0.0410	0.0577	0.1064	0.1647	0.0840	-0.0389
0.7519	0.7782	0.7829	0.7823	0.7799	0.7817	-0.0568	-0.0502	-0.0340	-0.0286	-0.0209	-0.0150
AVERAGE = 0.7485						AVERAGE = 0.0264					
$X/R_t = 0.967 \quad R/R_t = 1.06$ POINT NUMBER = 6											
0.7721	0.7774	0.7783	0.7794	0.7791	0.7755	-0.0292	-0.0214	-0.0157	-0.0099	-0.0098	-0.0038
0.7740	0.7779	0.7789	0.7748	0.7757	0.7737	0.0003	0.0008	0.0045	0.0066	0.0110	0.0137
0.7740	0.7728	0.7718	0.7717	0.7711	0.7728	0.0203	0.0186	0.0227	0.0226	0.0243	0.0312
0.7699	0.7712	0.7630	0.7600	0.7464	0.7375	0.0344	0.0418	0.0420	0.0603	0.0715	0.1441
0.7350	0.6744	0.7505	0.7472	0.7619	0.7764	0.1559	0.1003	-0.0415	-0.0547	-0.0607	-0.0443
AVERAGE = 0.7570						AVERAGE = 0.0174					
$X/R_t = 1.118 \quad R/R_t = 1.06$ POINT NUMBER = 7											
XXXXXX	XXXXXX	0.7483	0.7504	0.7600	0.7704	XXXXXX	XXXXXX	-0.0639	-0.0640	-0.0518	-0.0412
0.7757	0.7799	0.7801	0.7792	0.7846	0.7802	-0.0304	-0.0262	-0.0185	-0.0121	-0.0077	-0.0030
0.7807	0.7807	0.7816	0.7778	0.7788	0.7793	-0.0010	0.0037	0.0096	0.0119	0.0127	0.0153
0.7781	0.7817	0.7762	0.7767	0.7746	0.7772	0.0138	0.0197	0.0250	0.0298	0.0333	0.0429
0.7752	0.7705	0.7649	0.7634	0.7736	0.7608	0.0490	0.0548	0.0658	0.0973	0.1391	0.1324
AVERAGE = XXXXXX						AVERAGE = XXXXXX					
$X/R_t = 1.282 \quad R/R_t = 1.06$ POINT NUMBER = 8											
0.7595	0.7620	0.7653	0.7861	0.7574	XXXXXX	0.0026	0.0065	0.0098	0.0129	0.0134	XXXXXX
XXXXXX	XXXXXX	XXXXXX	0.7667	0.7654	0.7647	XXXXXX	XXXXXX	XXXXXX	0.0079	0.0051	0.0075
0.7631	0.7548	0.7699	0.7599	0.7700	0.7723	0.0088	0.0177	0.0363	-0.0006	0.0167	0.0066
0.7507	0.7848	0.9919	1.2588	0.9572	0.5626	0.0004	0.0066	-0.1272	-0.3249	-0.6457	-0.3795
0.5248	0.8047	0.8135	0.7534	0.7604	0.7624	-0.3540	0.0570	0.0748	0.0232	-0.0015	0.0092
AVERAGE = XXXXXX						AVERAGE = XXXXXX					
$X/R_t = 1.445 \quad R/R_t = 1.06$ POINT NUMBER = 10											
0.7807	0.7834	0.7793	0.7809	0.7798	0.7774	0.0151	0.0232	0.0254	0.0328	0.0406	0.0483
0.7785	0.7834	0.7734	0.7701	0.7095	XXXXXX	0.0606	0.0804	0.0968	0.0975	0.0692	XXXXXX
XXXXXX	XXXXXX	0.7688	0.7684	0.7662	0.7755	XXXXXX	XXXXXX	-0.0943	-0.0714	-0.0622	-0.0522
0.7813	0.7852	0.7840	0.7869	0.7804	0.7840	-0.0398	-0.0303	-0.0257	-0.0200	-0.0098	-0.0091
0.7846	0.7826	0.7824	0.7843	0.7822	0.7793	-0.0021	-0.0026	0.0010	0.0030	0.0085	0.0146
AVERAGE = XXXXXX						AVERAGE = XXXXXX					
(33) Interblade velocity for powered operation: nominal $X/R_t = 1.12$; $A_T = 356.52 \text{ m/s}$ (1169.7 ft/s); $\beta_{3/4} = 60.9^\circ$.											
AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = -0.060 \quad R/R_t = 1.12$ POINT NUMBER = 1											
0.7410	0.7430	0.7407	0.7416	0.7425	0.7396	0.0133	0.0150	0.0125	0.0124	0.0127	0.0097
0.7436	0.7389	0.7405	0.7430	0.7389	0.7408	0.0140	0.0119	0.0136	0.0122	0.0103	0.0115
0.7392	0.7451	0.7424	0.7440	0.7417	0.7428	0.0111	0.0083	0.0108	0.0102	0.0097	0.0113
0.7441	0.7447	0.7442	0.7427	0.7424	0.7409	0.0138	0.0114	0.0134	0.0125	0.0141	0.0124
0.7430	0.7410	0.7434	0.7428	0.7422	0.7428	0.0106	0.0090	0.0112	0.0116	0.0130	0.0091
AVERAGE = 0.7421						AVERAGE = 0.0116					
$X/R_t = 0.151 \quad R/R_t = 1.12$ POINT NUMBER = 2											
0.7453	0.7422	0.7436	0.7443	0.7454	0.7467	0.0163	0.0158	0.0148	0.0149	0.0160	0.0175
0.7448	0.7440	0.7459	0.7428	0.7436	0.7435	0.0180	0.0155	0.0166	0.0135	0.0171	0.0137
0.7422	0.7445	0.7429	0.7439	0.7452	0.7429	0.0156	0.0146	0.0168	0.0160	0.0163	0.0157
0.7434	0.7414	0.7409	0.7427	0.7425	0.7442	0.0133	0.0176	0.0142	0.0138	0.0135	0.0144
0.7413	0.7445	0.7449	0.7458	0.7451	0.7428	0.0168	0.0168	0.0156	0.0146	0.0146	0.0165
AVERAGE = 0.7442						AVERAGE = 0.0151					
$X/R_t = 0.151 \quad R/R_t = 1.12$ POINT NUMBER = 3											
0.7469	0.7445	0.7434	0.7437	0.7437	0.7454	0.0196	0.0170	0.0153	0.0177	0.0159	0.0178
0.7450	0.7445	0.7450	0.7445	0.7454	0.7450	0.0194	0.0161	0.0180	0.0175	0.0182	0.0190
0.7443	0.7443	0.7442	0.7451	0.7422	0.7428	0.0179	0.0171	0.0164	0.0175	0.0190	0.0177
0.7425	0.7415	0.7450	0.7422	0.7413	0.7415	0.0170	0.0161	0.0177	0.0150	0.0162	0.0168
0.7438	0.7485	0.7478	0.7451	0.7439	0.7430	0.0154	0.0177	0.0170	0.0160	0.0167	0.0173
AVERAGE = 0.7444						AVERAGE = 0.0175					

TABLE V. - Continued.

(33) Continued.

AXIAL VELOCITY

RADIAL VELOCITY

$X/R_t = 0.320$	$R/R_t = 1.12$	POINT NUMBER = 4										
0.7467	0.7473	0.7477	0.7457	0.7465	0.7487	0.0214	0.0209	0.0174	0.0204	0.0170	0.0186	
0.7477	0.7490	0.7481	0.7482	0.7495	0.7490	0.0186	0.0190	0.0216	0.0199	0.0189	0.0190	
0.7487	0.7484	0.7464	0.7487	0.7476	0.7501	0.0189	0.0156	0.0225	0.0185	0.0195	0.0197	
0.7472	0.7488	0.7481	0.7481	0.7480	0.7478	0.0227	0.0194	0.0205	0.0184	0.0214	0.0195	
0.7491	0.7482	0.7489	0.7484	0.7458	0.7477	0.0203	0.0191	0.0192	0.0219	0.0183	0.0205	
AVERAGE = 0.7481						AVERAGE = 0.0196						
$X/R_t = 0.478$	$R/R_t = 1.12$	POINT NUMBER = 5										
0.7524	0.7516	0.7576	0.7578	0.7525	0.7552	0.0198	0.0137	0.0162	0.0231	0.0230	0.0213	
0.7516	0.7522	0.7526	0.7539	0.7540	0.7497	0.0215	0.0177	0.0206	0.0237	0.0232	0.0215	
0.7469	0.7499	0.7497	0.7503	0.7545	0.7542	0.0215	0.0230	0.0193	0.0178	0.0209	0.0204	
0.7541	0.7529	0.7543	0.7504	0.7516	0.7499	0.0224	0.0223	0.0221	0.0229	0.0190	0.0215	
0.7547	0.7523	0.7534	0.7564	0.7541	0.7567	0.0186	0.0199	0.0215	0.0168	0.0176	0.0209	
AVERAGE = 0.7529						AVERAGE = 0.0204						
$X/R_t = 0.559$	$R/R_t = 1.12$	POINT NUMBER = 6										
0.7601	0.7586	0.7599	0.7573	0.7586	0.7566	0.0190	0.0189	0.0213	0.0210	0.0194	0.0205	
0.7593	0.7617	0.7602	0.7635	0.7597	0.7582	0.0195	0.0208	0.0169	0.0189	0.0196	0.0162	
0.7572	0.7596	0.7585	0.7578	0.7581	0.7614	0.0194	0.0209	0.0202	0.0211	0.0215	0.0192	
0.7608	0.7603	0.7593	0.7617	0.7634	0.7652	0.0197	0.0186	0.0164	0.0147	0.0158	0.0161	
0.7635	0.7599	0.7611	0.7620	0.7570	0.7599	0.0185	0.0191	0.0199	0.0160	0.0159	0.0186	
AVERAGE = 0.7600						AVERAGE = 0.0192						
$X/R_t = 0.641$	$R/R_t = 1.12$	POINT NUMBER = 7										
0.7647	0.7652	0.7652	0.7678	0.7646	0.7660	0.0146	0.0126	0.0183	0.0175	0.0142	0.0174	
0.7653	0.7669	0.7665	0.7638	0.7635	0.7637	0.0182	0.0144	0.0186	0.0142	0.0130	0.0177	
0.7660	0.7633	0.7655	0.7603	0.7611	0.7610	0.0157	0.0169	0.0146	0.0210	0.0202	0.0209	
0.7584	0.7572	0.7583	0.7606	0.7605	0.7595	0.0192	0.0179	0.0203	0.0197	0.0193	0.0171	
0.7604	0.7587	0.7591	0.7599	0.7628	0.7687	0.0204	0.0197	0.0219	0.0187	0.0158	0.0110	
AVERAGE = 0.7625						AVERAGE = 0.0176						
$X/R_t = 0.730$	$R/R_t = 1.12$	POINT NUMBER = 8										
0.7681	0.7710	0.7655	0.7709	0.7721	0.7721	0.0088	0.0080	0.0098	0.0108	0.0134	0.0096	
0.7718	0.7676	0.7649	0.7640	0.7644	0.7591	0.0103	0.0106	0.0125	0.0197	0.0129	0.0188	
0.7593	0.7586	0.7552	0.7555	0.7544	0.7542	0.0171	0.0212	0.0223	0.0221	0.0250	0.0203	
0.7552	0.7503	0.7510	0.7565	0.7654	0.7632	0.0252	0.0238	0.0221	0.0186	0.0139	0.0105	
0.7663	0.7652	0.7668	0.7695	0.7687	0.7669	0.0122	0.0116	0.0097	0.0109	0.0121	0.0138	
AVERAGE = 0.7616						AVERAGE = 0.0163						
$X/R_t = 0.810$	$R/R_t = 1.12$	POINT NUMBER = 9										
0.7774	0.7730	0.7680	0.7652	0.7665	0.7616	-0.0005	0.0025	0.0070	0.0065	0.0082	0.0098	
0.7677	0.7620	0.7612	0.7622	0.7608	0.7599	0.0124	0.0125	0.0164	0.0175	0.0193	0.0178	
0.7587	0.7495	0.7528	0.7511	0.7539	0.7519	0.0209	0.0268	0.0299	0.0227	0.0247	0.0274	
0.7523	0.7528	0.7575	0.7611	0.7629	0.7664	0.0258	0.0226	0.0190	0.0125	0.0061	0.0039	
0.7695	0.7697	0.7716	0.7718	0.7752	0.7746	0.0040	0.0011	0.0008	-0.0021	-0.0021	-0.0009	
AVERAGE = 0.7615						AVERAGE = 0.0144						
$X/R_t = 0.886$	$R/R_t = 1.12$	POINT NUMBER = 10										
0.7681	0.7682	0.7655	0.7696	0.7693	0.7684	0.0033	0.0003	0.0017	0.0038	0.0048	0.0064	
0.7687	0.7667	0.7594	0.7589	0.7658	0.7684	0.0078	0.0104	0.0175	0.0109	0.0159	0.0168	
0.7650	0.7599	0.7622	0.7581	0.7587	0.7561	0.0197	0.0209	0.0239	0.0268	0.0295	0.0288	
0.7552	0.7514	0.7436	0.7499	0.7492	0.7575	0.0353	0.0303	0.0333	0.0261	0.0170	0.0040	
0.7605	0.7640	0.7618	0.7691	0.7688	0.7665	-0.0091	-0.0119	-0.0126	-0.0040	-0.0050	-0.0018	
AVERAGE = 0.7594						AVERAGE = 0.0145						
$X/R_t = 0.967$	$R/R_t = 1.12$	POINT NUMBER = 11										
0.7612	0.7641	0.7636	0.7618	0.7668	0.7664	-0.0118	-0.0107	-0.0057	-0.0025	0.0033	0.0004	
0.7696	0.7682	0.7669	0.7680	0.7681	0.7669	0.0035	0.0056	0.0084	0.0109	0.0105	0.0133	
0.7664	0.7640	0.7635	0.7634	0.7621	0.7617	0.0187	0.0174	0.0201	0.0210	0.0237	0.0243	
0.7629	0.7599	0.7586	0.7534	0.7489	0.7380	0.0287	0.0303	0.0349	0.0317	0.0356	0.0314	
0.7345	0.7332	0.7374	0.7412	0.7498	0.7534	0.0299	0.0121	-0.0005	-0.0076	-0.0104	-0.0159	
AVERAGE = 0.7574						AVERAGE = 0.0132						

TABLE V. - Continued.

(33) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 1.049 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 12											
0.7362	0.7416	0.7566	0.7600	0.7639	0.7683	-0.0074	-0.0145	-0.0138	-0.0150	-0.0127	-0.0070
0.7683	0.7669	0.7684	0.7718	0.7690	0.7675	-0.0071	-0.0012	0.0022	0.0052	0.0039	0.0076
0.7677	0.7692	0.7680	0.7664	0.7657	0.7652	0.0096	0.0127	0.0145	0.0146	0.0192	0.0196
0.7658	0.7634	0.7632	0.7620	0.7552	0.7545	0.0221	0.0230	0.0228	0.0303	0.0323	0.0383
0.7502	0.7396	0.7336	0.7284	0.7280	0.7334	0.0427	0.0435	0.0445	0.0326	0.0209	0.0009
AVERAGE = 0.7546						AVERAGE = 0.0142					
$X/R_t = 1.118 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 13											
0.7236	0.7258	0.7363	0.7488	0.7534	0.7628	0.0354	0.0127	-0.0015	-0.0128	-0.0173	-0.0161
0.7643	0.7689	0.7680	0.7670	0.7694	0.7702	-0.0119	-0.0092	-0.0074	-0.0061	-0.0002	0.0012
0.7697	0.7704	0.7705	0.7720	0.7715	0.7698	0.0029	0.0058	0.0084	0.0080	0.0133	0.0148
0.7713	0.7698	0.7675	0.7704	0.7638	0.7634	0.0147	0.0179	0.0202	0.0243	0.0282	0.0333
0.7605	0.7584	0.7486	0.7489	0.7342	0.7304	0.0339	0.0421	0.0417	0.0449	0.0533	0.0462
AVERAGE = 0.7547						AVERAGE = 0.0162					
$X/R_t = 1.200 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 14											
0.7408	0.7328	0.7285	0.7191	0.7198	0.7235	0.0503	0.0557	0.0531	0.0378	0.0191	0.0030
0.7411	0.7539	0.7577	0.7644	0.7669	0.7676	-0.0154	-0.0236	-0.0189	-0.0108	-0.0098	-0.0082
0.7693	0.7698	0.7708	0.7693	0.7711	0.7730	-0.0024	0.0002	-0.0027	0.0006	0.0037	0.0092
0.7693	0.7748	0.7714	0.7687	0.7675	0.7709	0.0088	0.0113	0.0127	0.0173	0.0181	0.0215
0.7648	0.7653	0.7650	0.7661	0.7572	0.7514	0.0271	0.0306	0.0339	0.0439	0.0456	0.0468
AVERAGE = 0.7509						AVERAGE = 0.0193					
$X/R_t = 1.282 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 15											
0.7577	0.7570	0.7433	0.7359	0.7298	0.7224	0.0449	0.0474	0.0448	0.0586	0.0607	0.0541
0.7174	0.7193	0.7264	0.7437	0.7458	0.7593	0.0360	0.0146	-0.0008	-0.0169	-0.0183	-0.0233
0.7643	0.7681	0.7684	0.7705	0.7688	0.7722	-0.0142	-0.0133	-0.0111	-0.0056	-0.0097	-0.0061
0.7740	0.7739	0.7761	0.7731	0.7712	0.7721	-0.0017	0.0024	0.0016	0.0108	0.0116	0.0135
0.7722	0.7735	0.7744	0.7681	0.7658	0.7637	0.0184	0.0185	0.0251	0.0262	0.0293	0.0326
AVERAGE = 0.7441						AVERAGE = 0.0204					
$X/R_t = 1.363 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 16											
0.7654	0.7629	0.7609	0.7563	0.7525	0.7442	0.0310	0.0304	0.0345	0.0404	0.0474	0.0540
0.7323	0.7267	0.7209	0.7159	0.7169	0.7255	0.0592	0.0630	0.0582	0.0362	0.0158	-0.0044
0.7360	0.7523	0.7564	0.7660	0.7727	0.7695	-0.0168	-0.0212	-0.0250	-0.0196	-0.0186	-0.0129
0.7787	0.7723	0.7769	0.7770	0.7783	0.7767	-0.0156	-0.0051	-0.0044	-0.0006	0.0002	0.0065
0.7728	0.7779	0.7703	0.7696	0.7696	0.7674	0.0080	0.0137	0.0097	0.0117	0.0195	0.0233
AVERAGE = 0.7400						AVERAGE = 0.0204					
$X/R_t = 1.410 \quad R/R_t = 1.12 \quad$ POINT NUMBER = 17											
0.7711	0.7652	0.7646	0.7620	0.7620	0.7540	0.0229	0.0285	0.0257	0.0330	0.0389	0.0421
0.7475	0.7430	0.7340	0.7275	0.7213	0.7227	0.0516	0.0523	0.0687	0.0606	0.0446	0.0236
0.7220	0.7335	0.7422	0.7635	0.7645	0.7673	0.0018	-0.0153	-0.0183	-0.0216	-0.0221	-0.0165
0.7734	0.7714	0.7758	0.7762	0.7773	0.7713	-0.0195	-0.0084	-0.0072	-0.0056	-0.0030	-0.0044
0.7746	0.7750	0.7754	0.7712	0.7744	0.7721	0.0077	0.0052	0.0093	0.0126	0.0103	0.0143
AVERAGE = 0.7413						AVERAGE = 0.0215					

(34) Interblade velocity for powered operation: nominal $X/R_t = 1.02$; $A_T = 344.58 \text{ m/s}$ (1130.5 ft/s); $\beta_{3/4} = 60.9^\circ$.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = -0.060 \quad R/R_t = 1.02 \quad$ POINT NUMBER = 2											
0.7623	0.7612	0.7526	0.7598	0.7509	0.7617	0.0151	0.0166	0.0240	0.0185	0.0197	0.0132
0.7623	0.7630	0.7676	0.7630	0.7567	0.7593	0.0150	0.0152	0.0186	0.0149	0.0191	0.0201
0.7684	0.7639	0.7678	0.7641	0.7653	0.7621	0.0171	0.0168	0.0152	0.0173	0.0164	0.0173
0.7572	0.7536	0.7629	0.7596	0.7620	0.7627	0.0181	0.0219	0.0164	0.0164	0.0169	0.0138
0.7665	0.7605	0.7590	0.7554	0.7638	0.7600	0.0175	0.0195	0.0205	0.0140	0.0175	0.0216
AVERAGE = 0.7612						AVERAGE = 0.0176					
$X/R_t = 0.151 \quad R/R_t = 1.02 \quad$ POINT NUMBER = 4											
0.7669	0.7641	0.7663	0.7567	0.7632	0.7609	0.0228	0.0248	0.0255	0.0257	0.0250	0.0234
0.7618	0.7568	0.7606	0.7631	0.7591	0.7661	0.0201	0.0284	0.0238	0.0218	0.0245	0.0176
0.7602	0.7621	0.7659	0.7620	0.7619	0.7651	0.0258	0.0256	0.0203	0.0262	0.0220	0.0239
0.7674	0.7651	0.7589	0.7552	0.7674	0.7664	0.0243	0.0193	0.0264	0.0282	0.0217	0.0235
0.7666	0.7673	0.7590	0.7658	0.7645	0.7616	0.0195	0.0216	0.0220	0.0211	0.0214	0.0174
AVERAGE = 0.7629						AVERAGE = 0.0232					

TABLE V. - Continued.

(34) Continued.

AXIAL VELOCITY										RADIAL VELOCITY					
$X/R_t = 0.320 \quad R/R_t = 1.02$ POINT NUMBER = 5										0.0243	0.0274	0.0316	0.0209	0.0262	0.0291
0.7658	0.7711	0.7658	0.7740	0.7695	0.7690	0.0243	0.0274	0.0316	0.0209	0.0262	0.0291				
0.7578	0.7736	0.7723	0.7681	0.7681	0.7694	0.0398	0.0246	0.0210	0.0299	0.0249	0.0273				
0.7728	0.7723	0.7667	0.7671	0.7732	0.7697	0.0251	0.0236	0.0289	0.0307	0.0217	0.0248				
0.7650	0.7723	0.7720	0.7792	0.7675	0.7729	0.0265	0.0243	0.0249	0.0249	0.0259	0.0279				
0.7686	0.7609	0.7721	0.7726	0.7623	0.7682	0.0226	0.0330	0.0277	0.0279	0.0320	0.0194				
AVERAGE = 0.7694										AVERAGE = 0.0266					
$X/R_t = 0.478 \quad R/R_t = 1.02$ POINT NUMBER = 6										0.0194	0.0285	0.0257	0.0248	0.0241	0.0274
0.7886	0.7743	0.7846	0.7889	0.7826	0.7812	0.0213	0.0290	0.0317	0.0245	0.0259	0.0237				
0.7836	0.7828	0.7758	0.7756	0.7794	0.7829	0.0315	0.0226	0.0303	0.0309	0.0353	0.0237				
0.7801	0.7879	0.7785	0.7842	0.7734	0.7864	0.0295	0.0259	0.0294	0.0233	0.0271	0.0316				
0.7776	0.7840	0.7739	0.7763	0.7804	0.7795	0.0340	0.0277	0.0304	0.0249	0.0278	0.0249				
0.7803	0.7858	0.7855	0.7927	0.7878	0.7835	AVERAGE = 0.7817									
$X/R_t = 0.641 \quad R/R_t = 1.02$ POINT NUMBER = 7										0.0175	0.0198	0.0222	0.0157	0.0162	0.0299
0.7994	0.8102	0.7992	0.7990	0.8042	0.7848	0.0272	0.0232	0.0272	0.0329	0.0279	0.0379				
0.8057	0.8047	0.8009	0.7951	0.7923	0.7797	0.0266	0.0364	0.0327	0.0265	0.0273	0.0203				
0.7889	0.7873	0.7756	0.7826	0.7808	0.7897	0.0250	0.0216	0.0143	0.0159	0.0118	0.0102				
0.7793	0.7869	0.7938	0.7928	0.7996	0.7977	0.0153	0.0070	0.0165	0.0232	0.0215	0.0183				
0.7987	0.8080	0.8013	0.7926	0.7891	0.8025	AVERAGE = 0.7932									
$X/R_t = 0.559 \quad R/R_t = 1.02$ POINT NUMBER = 8										0.0195	0.0225	0.0268	0.0214	0.0246	0.0235
0.7864	0.7852	0.7873	0.7986	0.7955	0.7966	0.0327	0.0259	0.0235	0.0310	0.0353	0.0289				
0.7794	0.7883	0.7911	0.7877	0.7814	0.7863	0.0238	0.0308	0.0258	0.0281	0.0183	0.0211				
0.7943	0.7891	0.7931	0.7916	0.7917	0.7946	0.0186	0.0295	0.0110	0.0227	0.0184	0.0178				
0.7950	0.7790	0.7931	0.7918	0.7998	0.7967	0.0257	0.0222	0.0207	0.0171	0.0285	0.0292				
0.7927	0.7859	0.7937	0.7955	0.7876	0.7770	AVERAGE = 0.7897									
$X/R_t = 0.682 \quad R/R_t = 1.02$ POINT NUMBER = 9										0.0215	0.0381	0.0160	0.0177	0.0323	0.0198
0.8000	0.7767	0.7951	0.8091	0.7915	0.8028	0.0296	0.0241	0.0272	0.0285	0.0291	0.0349				
0.8036	0.8041	0.7856	0.7845	0.7812	0.7750	0.0467	0.0366	0.0325	0.0240	0.0286	0.0228				
0.7613	0.7660	0.7668	0.7817	0.7747	0.7777	0.0212	0.0208	0.0191	0.0105	0.0104	0.0118				
0.7864	0.7782	0.7889	0.7982	0.7978	0.8001	0.0058	0.0298	0.0155	0.0192	0.0144	0.0257				
0.8082	0.7742	0.7971	0.7927	0.7996	0.7922	AVERAGE = 0.7862									
$X/R_t = 0.706 \quad R/R_t = 1.02$ POINT NUMBER = 10										0.0201	0.0186	0.0172	0.0175	0.0297	0.0299
0.7999	0.8009	0.8075	0.8065	0.7907	0.7900	0.0200	0.0195	0.0361	0.0271	0.0319	0.0331				
0.7990	0.7878	0.7724	0.7795	0.7731	0.7797	0.0402	0.0429	0.0412	0.0318	0.0228	0.0157				
0.7713	0.7644	0.7623	0.7644	0.7731	0.7914	0.0133	0.0071	0.0096	0.0096	0.0048	0.0111				
0.7960	0.8064	0.8065	0.8058	0.8047	0.7983	0.0077	0.0038	0.0126	0.0184	0.0067	0.0138				
0.8086	0.8174	0.8019	0.7907	0.8118	0.8088	AVERAGE = 0.7848									
$X/R_t = 0.869 \quad R/R_t = 1.02$ POINT NUMBER = 11										0.0184	0.0056	0.0113	0.0228	0.0269	0.0214
0.7837	0.8099	0.7976	0.7866	0.7794	0.7843	0.0177	0.0241	0.0276	0.0263	0.0345	0.0272				
0.7971	0.7912	0.7927	0.7845	0.7860	0.7860	0.0349	0.0390	0.0444	0.0456	0.0533	0.0567				
0.7906	0.7859	0.7808	0.7881	0.7731	0.7803	0.0760	0.0972	0.0604	-0.0623	-0.0521	-0.0286				
0.7816	0.7596	0.7452	0.8314	0.8157	0.8013	-0.0308	-0.0176	-0.0073	-0.0122	0.0066	0.0088				
0.8234	0.8121	0.8062	0.8111	0.7984	0.7860	AVERAGE = 0.7866									
$X/R_t = 0.866 \quad R/R_t = 1.02$ POINT NUMBER = 12										0.0123	0.0077	0.0121	0.0118	0.0188	0.0090
0.7831	0.7971	0.7882	0.7945	0.7918	0.8064	0.0182	0.0188	0.0169	0.0226	0.0302	0.0257				
0.7905	0.7989	0.7979	0.7878	0.7830	0.7838	0.0303	0.0409	0.0384	0.0429	0.0447	0.0519				
0.7860	0.7837	0.7865	0.7792	0.7853	0.7783	0.0653	0.0837	0.0830	-0.0159	-0.0819	-0.0476				
0.7889	0.7916	0.7773	0.7609	0.8505	0.8187	-0.0101	-0.0261	-0.0130	-0.0028	-0.0044	-0.0046				
0.7699	0.8083	0.8020	0.7994	0.8046	0.8050	AVERAGE = 0.7878									
AVERAGE = 0.7878										AVERAGE = 0.0196					

TABLE V. - Concluded.

(34) Concluded.

AXIAL VELOCITY						RADIAL VELOCITY					
$X/R_t = 1.118 \quad R/R_t = 1.02$ POINT NUMBER = 13											
0.7525	0.8141	0.7782	0.8047	0.7988	0.8160	-0.0402	-0.0657	-0.0416	-0.0450	-0.0273	-0.0280
0.8037	0.7986	0.8092	0.7961	0.8058	0.8089	-0.0170	-0.0033	-0.0061	0.0050	0.0043	0.0057
0.7963	0.8134	0.7886	0.8099	0.8141	0.8074	0.0221	0.0089	0.0254	0.0138	0.0202	0.0187
0.8024	0.8126	0.8088	0.8057	0.8128	0.8053	0.0290	0.0302	0.0309	0.0376	0.0439	0.0579
0.8080	0.8027	0.8071	0.8103	0.7905	0.7141	0.0663	0.0867	0.0982	0.0907	0.0793	0.0996
AVERAGE = 0.7968						AVERAGE = 0.0218					
$X/R_t = 1.282 \quad R/R_t = 1.02$ POINT NUMBER = 14											
0.8163	0.8172	0.8303	0.8258	0.8163	0.6771	0.0715	0.0936	0.0816	0.0387	0.0598	0.0662
0.7166	0.8247	0.8073	0.8072	0.7998	0.8096	0.0063	-0.0828	-0.0760	-0.0611	-0.0363	-0.0319
0.7775	0.8035	0.8044	0.8146	0.7945	0.8084	-0.0004	-0.0095	-0.0049	-0.0134	0.0095	0.0058
0.8033	0.8078	0.8081	0.7960	0.8106	0.7929	0.0096	0.0062	0.0148	0.0316	0.0278	0.0373
0.8118	0.8037	0.8112	0.8110	0.8040	0.8149	0.0305	0.0433	0.0423	0.0498	0.0599	0.0696
AVERAGE = 0.8043						AVERAGE = 0.0215					
$X/R_t = 1.526 \quad R/R_t = 1.02$ POINT NUMBER = 15											
0.8000	0.8138	0.7966	0.8172	0.8114	0.8065	0.0216	0.0161	0.0284	0.0282	0.0312	0.0513
0.8122	0.8072	0.8172	0.8224	0.8205	0.8209	0.0552	0.0537	0.0807	0.0673	0.0671	0.0479
XXXXXX	XXXXXX	XXXXXX	XXXXXX	0.7628	0.8038	XXXXXX	XXXXXX	XXXXXX	XXXXXX	-0.0498	-0.0727
0.8045	0.7904	0.7845	0.7749	0.7755	0.8118	-0.0743	-0.0515	-0.0214	-0.0119	0.0083	-0.0087
0.7777	0.7925	0.8128	0.7954	0.8047	0.8068	0.0134	0.0037	-0.0019	0.0073	0.0123	0.0160
AVERAGE = XXXXXX						AVERAGE = XXXXXX					

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16. Abstract A laser velocimeter has been used to measure velocities in the flow field around an advanced, eight-blade, high-speed propeller in the NASA Lewis 8- by 6-Foot Supersonic Wind Tunnel. The propeller was nominally 62.23 cm (24.5 in) in diameter and was operated both at windmill and near the design power condition at a free-stream Mach number of 0.8. The detailed three-dimensional velocity data obtained are being made available in this data report to enable researchers to verify emerging advanced propeller design and analysis codes. Data were obtained at two axial positions ahead of the propeller, at two axial positions downstream of the propeller, and at seven radial positions within the bladed passages extending from the inlet of the blades to downstream of the blade exit. A four-beam laser velocimeter system was configured to measure two velocity components simultaneously.			
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